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ABSTRACT

The purposes of this study were to compare the physical fitness level of Oklahoma youth with that of a national sample used in the 1965 study on youth fitness, and to develop Oklahoma norms for the items tested. This study used a random stratified sampling technique in the selection of Oklahoma seventh and eighth graders, and was representative of the Oklahoma student population involved in physical education programs. A total of 2,000 boys and 1,600 girls from 135 schools were involved. Conclusions from the data included: (1) Oklahoma boys (12 and 13 years old) had higher mean scores on the pull-up and sit up, (2) the 1965 national sample of boys had higher scores on all items for 14-year olds, (3) Oklahoma girls had higher scores on all test items in all age groups with the exception of the 50-yard dash in the 12-year age group, (4) the 12 and 13-year old group of Oklahoma students generally scored better than their comparable group in the national sample. The authors conclude that the applicability of national fitness norms to evaluate fitness programs in the state of Oklahoma is questionable. (Author/KJ)

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THE PHYSICAL FITNESS STATUS OF OKLAHOMA YOUTH
(A Pilot Study for Grades 7 and 8)

October 1969

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THE PHYSICAL FITNESS STATUS OF OKLAHOMA YOUTH
(A Pilot Study for Grades 7 and 8)

Jerome C. Weber

University of Oklahoma
Norman, Oklahoma

October 1969

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CHAPTER I

INTRODUCTION

The creation, in 1958 and again in 1965, of a national set of norms concerned with the physical fitness of American youth has been a giant step forward in allowing the individual physical education teacher to determine how effectively he is providing his students with the levels of physical fitness necessary to function effectively in todays society. However, there has been little effort directed toward answering the question of how applicable national norms are for evaluation of fitness levels when the scope of interest is limited to a single locality such as a particular state.

Statement of the Problem

The purposes of this study were to construct physical fitness norms for 7th and 8th grade boys and girls throughout the state of Oklahoma and to compare these norms to the most recent national norms to determine if significant differences exist between them.

Importance of the Problem

Physical education, like most other disciplines, is presently in a period of critical self-examination. Some impetus for this self-examination has been external such as demands by school administrators, boards of education, teachers, and students. These groups believe that every subject area in the schools must define itself precisely in terms of its contribution to the student's welfare and its place within the general framework of the educational system. In the case of physical education this demand has been particularly vigorous because many people, within the school system and without, view physical education as a "frill" which uses up valuable time, facilities, and energies that might be better used elsewhere.

Another impetus for self-examination is internal in its origin. Physical educators today recognize that there is no longer any guarantee that curricula will automatically provide physical education for public school children. This is in part a reaction to the external impetus noted previously, and is also a reflection of a maturation on the part of the discipline of physical education. Physical educators today are prepared both psychologically and in terms of abilities to evaluate their programs on a sound quantitative basis, and not to rely as heavily as in past years on assuming program outcomes which are indefensible or, at best, unmeasureable.

One obvious outcome of the process of self-examination has been an increasing emphasis on quantitative methods for evaluation and an increasing level of sophistication in the use of such methods. The national norms developed for the American Association for Health, Physical Education, and Recreation Youth Fitness Test represented an enormous step forward in this process. The present study is an attempt to evaluate the national norms in terms of their applicability to a localized area, in this case the state of Oklahoma. Such a study is needed since there has been no previous attempt to make such a determination. It seems reasonable to infer that while the present national norms may be representative of the continental United States, their use may be less justified if systematic differences exist throughout the nation. It is realized that such an argument may be logically extended to smaller and smaller geographic units to the point of absurdity. However, using an individual state as the basis for such a comparison seems both reasonable and desirable.

It is also possible to envision a local situation in which the results of one or a few fitness items are very much lower than those that would be expected. Such a case would point out state-wide weaknesses that could be corrected by changes in curriculum and program emphasis.

Finally, such an inquiry, regardless of its outcome, has inherent value in focusing the attention of the community on the problem of physical fitness.

Limitations of the Study

There are always a number of limitations inherent in a study involving as many subjects as the present one. It was decided to limit the present study to grades 7 and 8 and to use these results to determine if a further study involving all grades was justified. The details of subject selection are explained fully in the chapter on methodology.

A second limitation concerned the pool of subjects from which the final sample was chosen. This included those boys and girls who were in schools which agreed to participate in the study and whose returns were properly completed and therefore eligible to be included in the sample. Of 135 schools in 77 counties which were asked to participate, only 74 schools representing 44 counties agreed to take part in the study and actually did so. It became rather obvious that the larger schools from larger counties were more willing to participate in the study than the smaller schools throughout the state. It seems reasonable that the students included in the study were generally from those schools with physical education facilities, teachers, and programs and that the schools which did not participate in the study were largely those without such facilities, teachers, and programs. In such a case the present results would not be representative of all 7th and 8th grade boys and girls but rather would represent those in schools offering physical education.

A final limitation had to do with the amount of information which could be obtained from public school students. It was originally hoped that data could be obtained from the students concerning their economic status, whether they work after school or not, racial groups, background in physical education, and other variables which might be relevant to physical fitness. However, the advice of local school officials was that an attempt to solicit such information would greatly reduce the number of schools which would agree to participate in the study. It was therefore decided to sacrifice this tangential category of information in order to help insure a greater number of respondents.

General Background

The present national concern with physical fitness received its initial and greatest impetus from the published work of Kraus and Hirschland which showed that on a test of minimum levels of fitness, 58% of the United States children failed while only 9% of a similar group of Austrian, Italian, and Swiss children failed. While this study subsequently received criticism on the validity of the specific test items and the way in which the sampling was done, the furor that arose has been of unquestioned value in making the public aware of the need for physical fitness.

As a direct result of this report, President Eisenhower created the President's Council on Youth Fitness in September, 1956. This name was later changed to the President's Council on Physical Fitness. At the same time, the American Association for Health, Physical Education, and Recreation (AAHPER) determined that a national survey of youth fitness was necessary since no national norms existed which could be used by the schools to determine if their students were being adequately trained. In February, 1957 the Research Council of the AAHPER met to construct a battery of tests for this purpose. The tests were to meet the following criteria:

a) The test should give an indication of various components of fitness.

b) The tests should require little or no equipment for their administration.

c) The tests should be usable, with little or no modification, for boys and girls.

d) The tests should be usable for students in grades 5 through 12.

On the basis of these criteria, the AAHPER youth fitness tests were selected. These tests are:

a) Pull-ups (modified for girls) - this test is designated to measure the strength of the arm and shoulder girdle.

b) Sit-ups - this test is designed to measure the strength of the abdominal and hip flexor muscle groups.

c) Standing broad jump - this test is designed to measure the explosive power of the leg extensor muscles.

d) Shuttle-run - this test is designed to measure speed and the ability to change direction.

e) 50-yard dash - this test is designed to measure speed.

f) Softball throw for distance - this test is designed to measure skill and coordination.

g) 600-yard run-walk - this test is designed to measure cardiovascular efficiency.

These tests were administered to a national sample selected by the Survey Research Center of the University of Michigan and the norms were published in 1958. In 1960, a report indicated that the AAHPER tests, when administered to American and British children, showed the American children to have less shoulder girdle strength, less agility, less abdominal strength, less explosive leg power, and less endurance. The American children did better on the softball throw which is a skill rarely practiced by British children.

The same battery of tests was again given to a national sample and the revised norms were published in 1965. There was a very definite improvement in most of the items at most ages for both boys and girls. Increased familiarity with the tests and increased emphasis on physical fitness in the schools in the period between the two tests is credited with the improvements shown. It is important to note that when the schools are made aware of specific weaknesses, they are generally capable of correcting these weaknesses. However, the obvious first step is to determine if such weaknesses do, in fact, exist and, if so, in what specific area.

CHAPTER II

METHODOLOGY

Selection of Sample

The selection of a representative sample presented a problem because there was no standardized sampling procedure employed by the state for drawing representative statewide samples.

In order for the sample to proportionally represent Oklahoma's boys and girls in the 7th and 8th grade public school population, a stratified random sample technique was used to select subjects.

The sampling procedure was based on two main strata; state-wide 7th and 8th grade population and county 7th and 8th grade population. The following steps indicate the method by which the final sample was selected.

A list of counties with the school age population for 7th and 8th grade students was obtained from the Oklahoma State Department of Education. From this list five main groups were developed as follows (Appendix B):

1. Counties with a 7th and 8th grade school-age population under 499.
2. Counties with a 7th and 8th grade school-age population between 500 and 999.

3. Counties with a 7th and 8th grade school-age population between 1000 and 1999.
4. Counties with a 7th and 8th grade school-age population between 2000 and 4999.
5. Counties with a 7th and 8th grade school-age population over 5000.

Because of a lack of other stratification information, all schools having a 7th and 8th grade in the state were contacted through their principals to determine whether they would be willing to participate in the study. Out of 77 counties containing one or more eligible grades to participate in the study, 45 counties were represented in the final sample.

All schools within each county that agreed to participate in the study were asked to administer the test battery to all participating 7th and 8th grade students within each school. The total return was sorted by boys and girls, by county and by the five main strata. Each return within each county was assigned a number from which a random selection was made, such that each county was proportionately represented by its student population of 7th and 8th graders. To insure proportionality between the large and small counties a larger sample was selected from each stratum from which a final quota was randomly selected.

The final sample consisted of 2000 boys and 1600 girls chosen to be proportionately representative of the state's 7th and 8th grade physical education school-age population.

Description of Tests

Since the present study was designed to duplicate the 1965 national study by Hunsicker and Reiff on a local level, the tests chosen as indicators of fitness were the same as those used in the previous study. The pull-up for boys, flexed arm hang for girls, sit-up, shuttle run, standing broad jump, 50-yard dash, and softball throw for distance comprise the AAHPER Youth Fitness Test which is probably the most widely used and best known test of its type in the United States today.

The specific requirements of each test are as follows.

Pull-up - Boys

Equipment. A metal or wooden bar approximately 1½ inches in diameter is preferred. A doorway gym bar can be used and, if no regular equipment is available, a piece of pipe or even the rungs of a ladder can serve the purpose.

Description. The bar should be high enough so that the pupil can hang with his arms and legs fully extended and his feet free of the floor. Use the overhand grasp (palms away from face). After assuming the hanging position, the pupil raises his body by his arms until his chin can be placed over the bar and then lowers his body to the same position as the starting position. The exercise is repeated as many times as possible.

Rules.

1. Allow one trial unless it is obvious that the pupil has not had a fair chance.

2. The body must not swing during the execution of the movement. The pull must in no way be a snap movement. If the pupil starts swinging, check this by holding your extended arm across the front of the thighs.

3. The knees must not be raised and kicking of the legs is not permitted.

Scoring. Record the number of completed pull-ups to the nearest whole number.

Flexed Arm Hang - Girls

Equipment. A horizontal bar approximately 1½ inches in diameter is preferred. A doorway gym bar can be used and if no regular equipment is available, a piece of pipe can also serve the purpose. A stop watch is needed.

Description. Adjust the height of the bar so it is approximately equal to the subject's standing height. Use an overhand grasp (palms away from face). With the assistance of two spotters, one in front and one in back of the subject, the subject raises her body off the floor to a position where the chin is above the bar, the elbows are flexed and the chest is close to the bar. The subject holds this position against a time criterion as long as possible.

Rules.

1. The stop watch is started as soon as the subject takes the starting position.

2. The watch is stopped when: (a) the subject's chin touches the bar, (b) the subject's head tilts backwards to keep her

chin above the bar, (c) the subject's chin falls below the level of the bar.

Scoring. Record in seconds to the nearest whole second the length of time the subject holds the starting position.

Sit-up - Boys and Girls

Equipment. Mat or floor.

Description. The pupil lies on his back, either on the floor or on a mat, with legs extended and feet about two feet apart. His hands are placed on the back of the neck with the fingers interlaced. Elbows are retracted. A partner holds the ankles down, the heels being in contact with the mat or floor at all times.

The pupil sits up, turning the trunk to the left and touching the right elbow to the left knee, returns to starting position, then sits up turning the trunk to the right and touching the left elbow to the right knee. The exercise is repeated, alternating sides.

Rules.

1. The fingers must remain in contact behind the neck throughout the exercise.

2. The knees must be on the floor during the sit-up but may be slightly bent when touching the elbow to the knee.

3. The back should be rounded and the head and elbows brought forward when sitting up as in a "curl" up.

4. When returning to the starting position, the elbows must be flat on the mat before sitting up again.

Scoring. One point is given for each complete movement of touching the elbow to the knee. No score should be counted if the fingertips do not maintain contact behind the head, if the knees are bent when the pupil lies on his back or when he begins to sit up, or if the pupil pushes up off the floor from an elbow. The maximum limit in terms of number of sit-ups shall be: 50 sit-ups for girls, 100 sit-ups for boys.

Shuttle Run - Boys and Girls

Equipment. Two blocks of wood, 2 inches by 2 inches by 4 inches, and stop watch. Pupils should wear sneakers or run barefooted.

Description. Two parallel lines are marked on the floor 30 feet apart. The width of a regulation volleyball court serves as a suitable area. Place the blocks of wood behind one of the lines. The pupil starts from behind the other line. On the signal "Ready? Go!" the pupil runs to the blocks, picks one up, runs back to the starting line and places the block which he carries back across the starting line. If the scorer has two stopwatches or one with a split-second timer, it is preferable to have two people running at the same time. To eliminate the necessity of returning the blocks after each race, start the races alternately, first from behind one line and then from behind the other.

Rules. Allow two trials with some rest between.

Scoring. Record the better of the two trials to the nearest tenth of a second.

Standing Broad Jump - Boys and Girls

Equipment. Mat, floor, or outdoor jumping pit, and tape measure.

Description. Pupil stands with his feet several inches apart and the toes just behind the take-off line. Preparatory to jumping, the pupil swings the arms backward and bends the knees. The jump is accomplished by simultaneously extending the knees and swinging the arms forward.

Rules.

1. Allow three trials.

2. Measure from the take-off line to the heel or other part of the body that touches the floor nearest to the take-off line.

3. When the test is given indoors, it is convenient to tape the tape measure to the floor at right angles to the take-off line and have the pupils jump along the tape. The scorer stands to the side and observes the mark to the nearest inch.

Scoring. Record the best of the three trials in feet and inches to the nearest inch.

50-Yard Dash - Boys and Girls

Equipment. Two stopwatches or one with a split-second timer.

Description. It is preferable to administer this test to two pupils at a time. Have both take a position behind the starting line. The starter will use the commands "Are you ready?" and "Go!" The latter will be accompanied by a downward sweep of the starter's arm to give the timer a visual signal.

Rules. The score is the amount of time between the starter's signal and the instant the pupil crosses the finish line.

Scoring. Record in seconds to the nearest tenth of a second.

Softball Throw for Distance - Boys and Girls

Equipment. Softball (12-inch), small metal or wooden stakes and tape measure.

Description. A football field marked in conventional fashion (five-yard intervals) makes an ideal area for this test. If this is not available, it is suggested that lines be drawn parallel to the restraining line, five yards apart. The pupil throws the ball while remaining within two parallel lines, six feet apart. Mark the point of landing with one of the small stakes. If the second or third throw is farther, move the stake accordingly so that, after three throws, the stake is at the point of the pupil's best throw. It has been found expedient to have each pupil jog out to his stake and stand there; and then, after five pupils have completed their throws, the scores are recorded. By having the pupil at his particular stake, the danger of recording the wrong score is minimized.

Rules.

1. Only an overhand throw may be used.
2. Three throws are allowed.
3. The distance recorded is the distance from the point of landing to the nearest point on the restraining line.

Scoring. Record the best of the three trials to the nearest foot.

600-Yard Run-Walk - Boys and Girls

Equipment. Track or area marked off for 600 yards and a stop watch.

Description. Pupil uses a standing start. At the signal "Ready? Go!" the subject starts running the 600-yard distance. The running may be interspersed with walking if the subject tires. It is possible to have a dozen subjects run at one time by having the pupils pair off before the start of the event. Then each pupil listens for and remembers his partner's time as the latter crosses the finish line. The timer merely calls out the time as the pupils cross the finish line.

Rules. Walking is permitted, but the object is to cover the distance in the shortest possible time.

Scoring. Record in minutes and seconds to the nearest second.

Administration of Tests and Data Collection

Every effort was made to follow the proper channels in contacting and soliciting the cooperation of the personnel to be involved in the study. Through the cooperation of the State Department of Education and especially the office of the State Director of Physical Education and the office of Educational Research, pertinent information concerning Oklahoma's 7th and 8th grade school-age population was obtained. From this information all the principals of Oklahoma public schools having 7th and 8th grades were contacted. The only exception was in the city of Tulsa where approval by a screening committee for research was necessary.

The general pattern for planning was as follows:

1. A formal letter was sent to the principal of each school soliciting his cooperation in the study (Appendix B). Enclosed with

the letter was a self-addressed stamped postcard requesting the following information (Appendix C):

a. Name of school

b. Address of school

c. Whether the school would be willing to participate in the study

d. With whom to communicate

e. Approximate number of 7th and 8th graders

f. If the school would need help in the testing.

2. Upon the return of the postcard, the following forms were sent to the teacher who would be in charge of the testing program: test administration instructions, testing forms, and another self-addressed stamped postcard requesting additional information as follows (Appendix F):

a. If the enclosed directions were sufficient, or

b. If the school needed further help in testing?

Those schools not returning the first postcard were then contacted to determine if unique problems existed to prevent their participation.

3. All schools requesting information or help were visited by University of Oklahoma Physical Education staff prior to the testing deadline set for the finish of the testing phase.

4. All schools not returning forms by the deadline were contacted to determine if problems arose to prevent the return of forms.

Because the majority of the schools participating had given the same test battery prior to this study, further orientation was unnecessary. All schools encountering problems during any phase of the study were encouraged to request help that was readily available.

Regardless of who administered the tests, the data was collected on a form devised for this purpose and shown in Appendix E. Each student was responsible for entering his test scores according to directions read to him by his teacher. When a school had completed its testing the data sheets were returned to the authors. These were then checked for accuracy and assigned numbers by county. The returns within each county were then combined in accordance with the stratum devised and the appropriate number of returns were randomly selected as described above.

After the individual data sheets to be used were chosen they were then processed by a key punch operator who transferred the data from the sheet to an IBM card. The codes used are shown in Appendix D. The remaining data was retained for future investigation.

CHAPTER III

RESULTS

Statistical Analysis

This study involved the administration of the AAHPER youth fitness test to a sample of Oklahoma 7th and 8th grade boys and girls.

The main objective of the study was to develop Oklahoma norms for the seven test items which already exist in the form of national norms, and to determine if these national norms were applicable to a smaller geographical region.

Tables 1 through 14 in Appendix A show the percentile scores of Oklahoma 12, 13, and 14 year boys and girls as compared to the percentile scores of the national sample of 12, 13, and 14 year old boys and girls. Tables 16 through 43 in Appendix A show the comparison between Oklahoma and the national sample of 7th and 8th grade boys and girls based on the Neilsen Cozen exponent index shown in Table 15 of Appendix A. On all tests the 100th percentile represents the best performance and the 0 percentile represents the lowest performance on each test in each group.

The mean scores, standard deviations and number of students in each group are shown in Table 1 for boys and Table 2 for girls for both the Oklahoma and the national sample.

TABLE 1

YOUTH FITNESS TEST DATA FOR BOYS
(Means and Standard Deviations)

Test		Oklahoma Norms			National Norms		
			Age			Age	
		12	13	14	12	13	14
Pull-ups (no.)	$\bar{X}$	3.4	4.3	5.1	2.9	3.9	5.2
	S.D.	3.3	3.9	3.9	2.9	3.6	3.7
	No.	578	894	329	620	595	548
Sit-ups (no.)	$\bar{X}$	67.4	71.0	68.7	56.5	64.6	70.2
	S.D.	28.4	28.5	28.6	30.4	29.9	29.5
	No.	542	814	289	623	590	545
Shuttle (sec.)	$\bar{X}$	11.3	10.9	10.9	11.1	10.7	10.4
	S.D.	1.4	1.4	1.6	1.1	1.1	.9
	No.	635	912	328	596	563	530
Stand. Broad (in.)	$\bar{X}$	65.7	70.2	72.7	65.3	70.0	75.7
	S.D.	9.6	10.0	10.3	8.9	10.2	10.5
	No.	555	794	293	625	595	547
50-Yard (sec.)	$\bar{X}$	8.0	7.7	7.5	7.8	7.5	7.2
	S.D.	.8	.9	.9	.9	.7	.7
	No.	614	867	316	613	574	530
Soft-ball (ft.)	$\bar{X}$	116.3	130.7	139.5	122.7	141.2	154.5
	S.D.	29.6	32.8	35.5	26.6	32.1	33.4
	No.	406	665	267	627	586	538
600-Yard (sec.)	$\bar{X}$	141.0	134.4	133.2	148.0	135.2	125.7
	S.D.	23.4	26.4	28.8	31.6	28.7	25.4
	No.	635	921	331	614	578	534

TABLE 2

YOUTH FITNESS TEST DATA FOR GIRLS
(Means and Standard Deviations)

Test		Oklahoma Norms			National Norms		
			Age			Age	
		12	13	14	12	13	14
Flexed Arm (sec.)	$\bar{X}$	10.4	11.5	11.5	9.6	9.8	9.7
	S.D.	8.3	9.0	8.0	10.1	12.7	10.6
	No.	418	644	208	622	566	548
Sit-ups (no.)	$\bar{X}$	36.3	36.8	37.7	32.5	32.3	30.4
	S.D.	14.7	14.7	14.3	15.2	14.7	13.4
	No.	368	553	184	657	593	564
Shuttle (sec.)	$\bar{X}$	11.7	11.6	11.5	11.7	11.6	11.5
	S.D.	1.5	1.8	1.7	1.2	1.3	1.3
	No.	378	574	194	625	571	546
Stand. Broad (in.)	$\bar{X}$	62.4	62.9	64.4	59.9	60.3	62.2
	S.D.	9.5	9.2	8.8	9.6	9.3	9.3
	No.	384	591	192	652	595	562
50-Yard (sec.)	$\bar{X}$	8.5	8.1	8.0	8.3	8.3	8.3
	S.D.	.8	1.1	1.0	.9	1.0	1.1
	No.	341	546	194	641	591	547
Soft-ball (ft.)	$\bar{X}$	68.7	76.7	80.8	66.8	71.9	77.0
	S.D.	23.4	23.7	25.5	21.7	22.5	21.6
	No.	331	542	192	655	598	565
600-Yard (sec.)	$\bar{X}$	171.0	166.8	164.4	174.8	177.8	174.8
	S.D.	31.8	31.2	32.4	33.0	37.6	37.9
	No.	357	546	178	652	593	552

The differences between the mean score for the Oklahoma sample and the 1965 national sample are shown graphically in Figures 1 through 8.

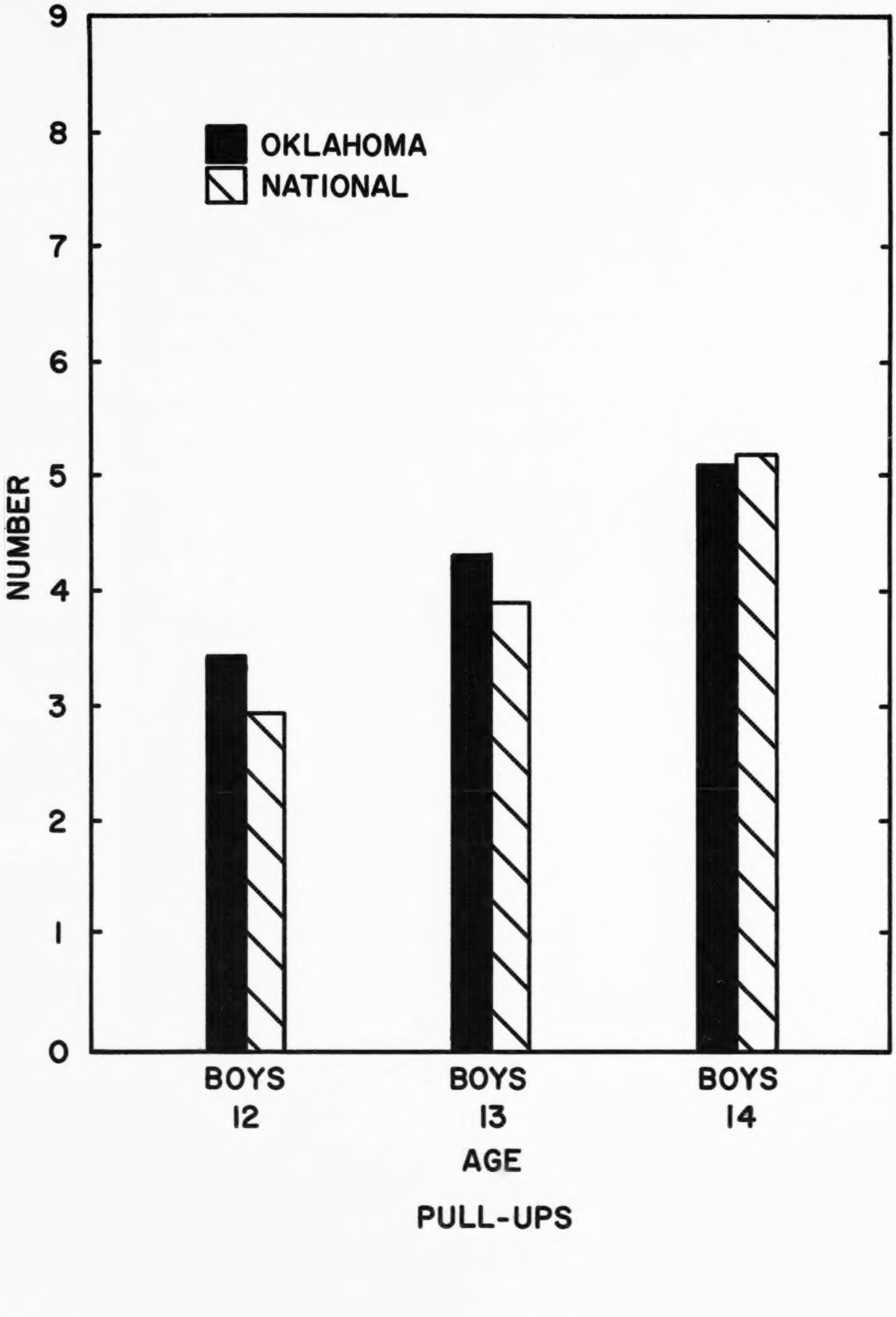
Each test was compared at each age level for statistical significance. The same criterion of two times the standard error of the difference used in the national study was adopted as the criterion level for the comparison shown on Table 3 for boys and Table 4 for girls.

It should be noted that desirable performances on the flexed-arm hang (girls), pull-ups (boys), standing broad jump, sit-ups and soft ball throw are represented by high scores while the best performances on the shuttle run, 50-yard dash and the 600-yard run-walk are represented by low scores. Those differences in which the Oklahoma sample scored higher than the national sample are expressed as a positive number even though the running events would arithmetically yield a negative number. The negative numbers represent comparisons in which the national sample performance was higher than the Oklahoma sample.

Results

The preceding graphs show that Oklahoma boys had higher mean scores on the following test items for both 12 and 13 year olds: pull-up; sit-up; standing broad jump; and the 600-yard run-walk. The national sample of 12 and 13 year old boys had a higher mean score on the remaining test items: shuttle run; 50-yard dash; and softball throw. In the 14 year old group, the national sample had higher mean scores on all test items than the Oklahoma boys. The graphs representing

FIGURE 1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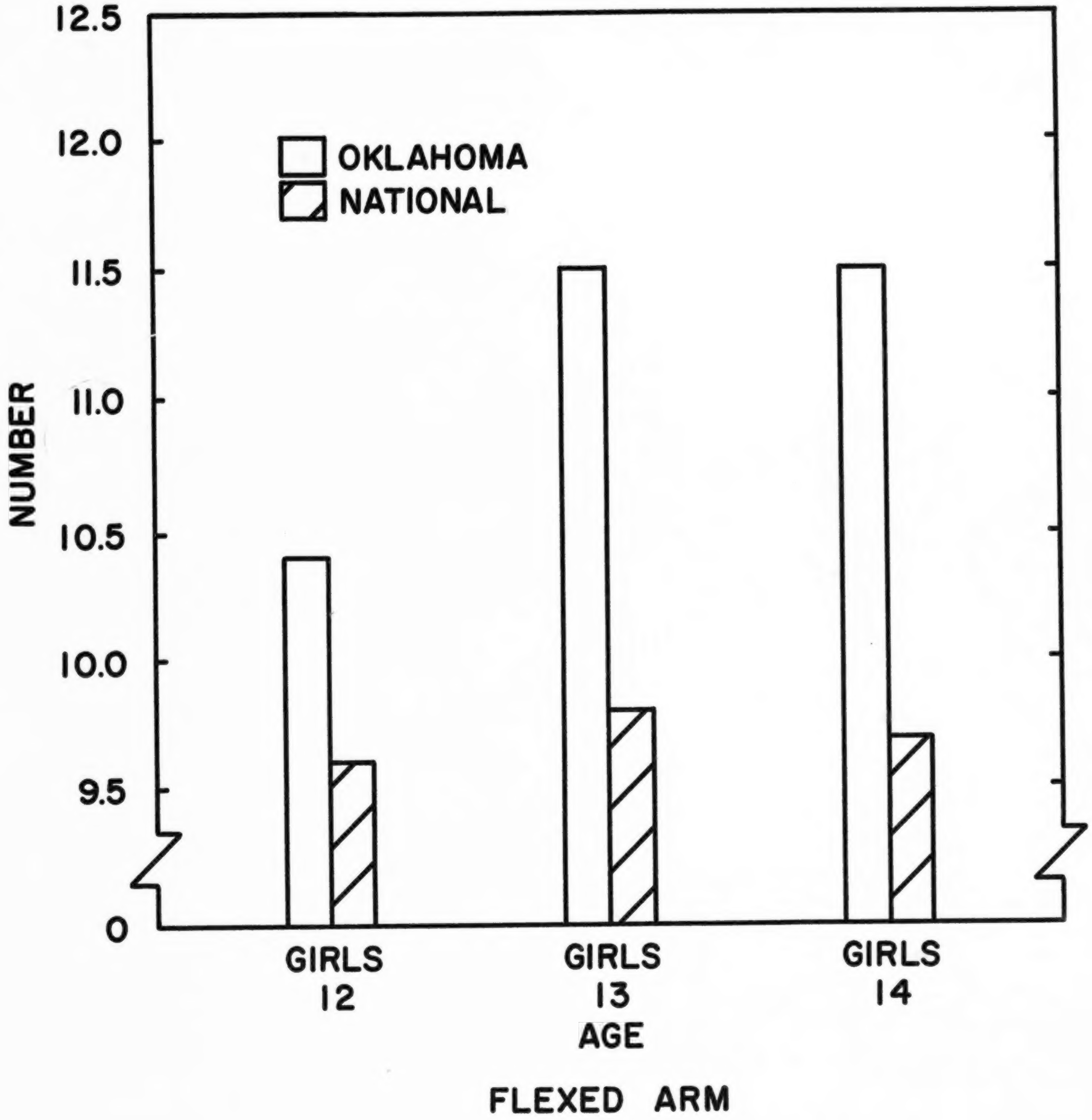
8
7
6
5
4
3
2
1
0
NUMBER
OKLAHOMA
NATIONAL
BOYS
12
BOYS
13
BOYS
14
AGE
PULL-UPS

FIGURE 2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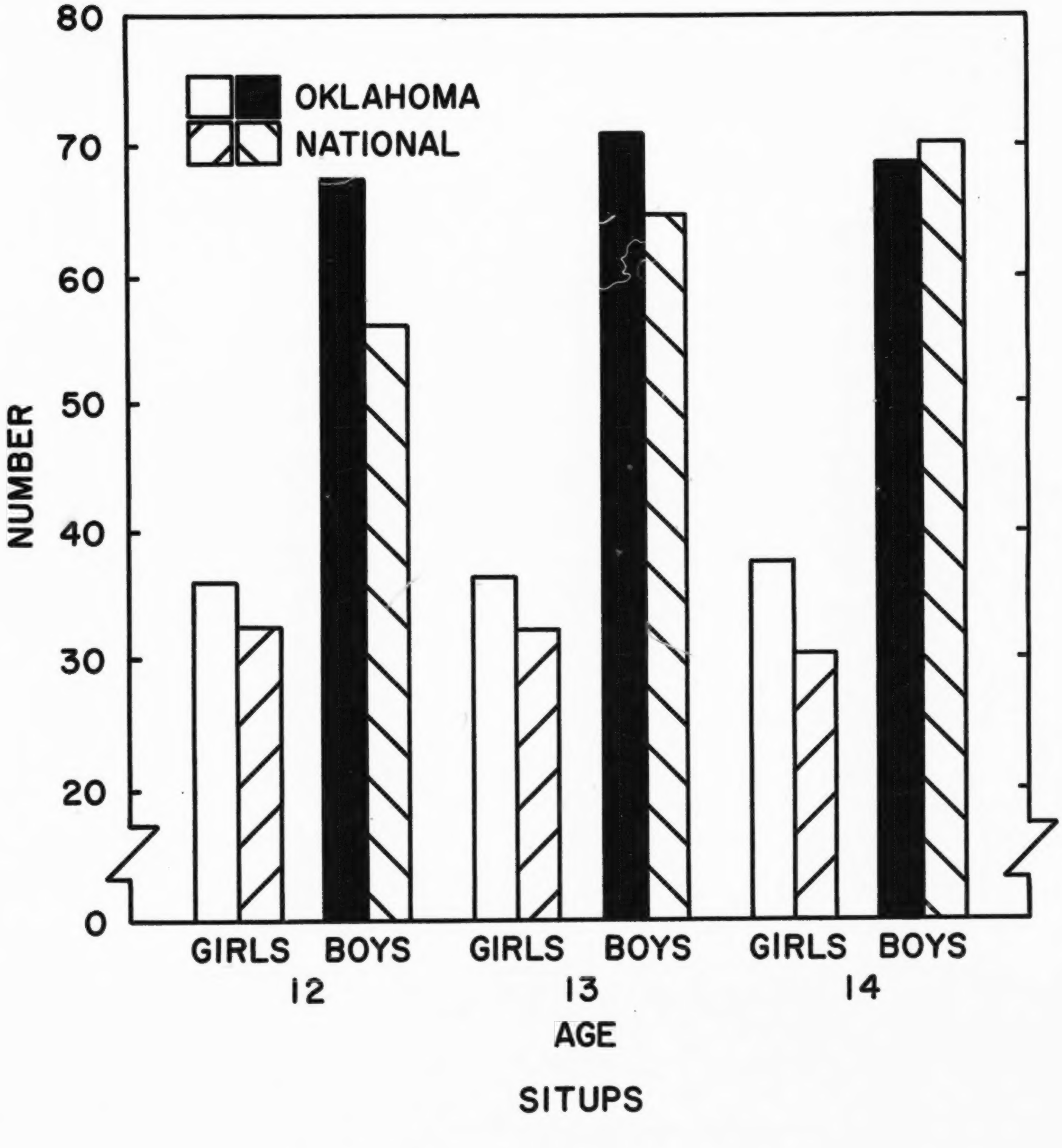
12.0
11.5
11.0
10.5
10.0
9.5
0
NUMBER
OKLAHOMA
NATIONAL
GIRLS 12
GIRLS 13
GIRLS 14
AGE
FLEXED ARM

FIGURE 3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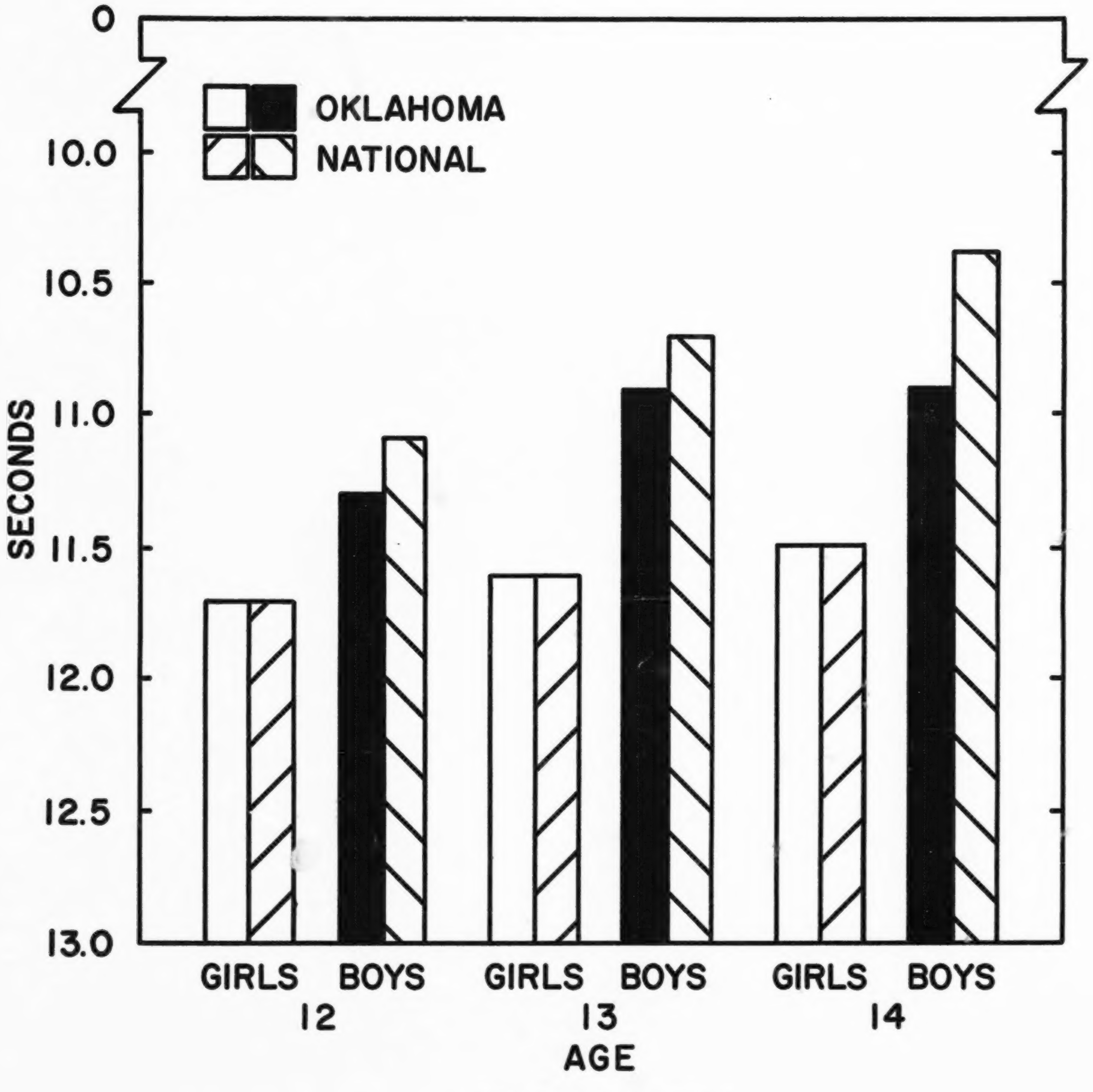
70
60
50
40
30
20
0
NUMBER
OKLAHOMA
NATIONAL
GIRLS
BOYS
12
GIRLS
BOYS
13
GIRLS
BOYS
14
AGE
SITUPS

FIGURE 4



SHUTTLE RUN

FIGURE 5

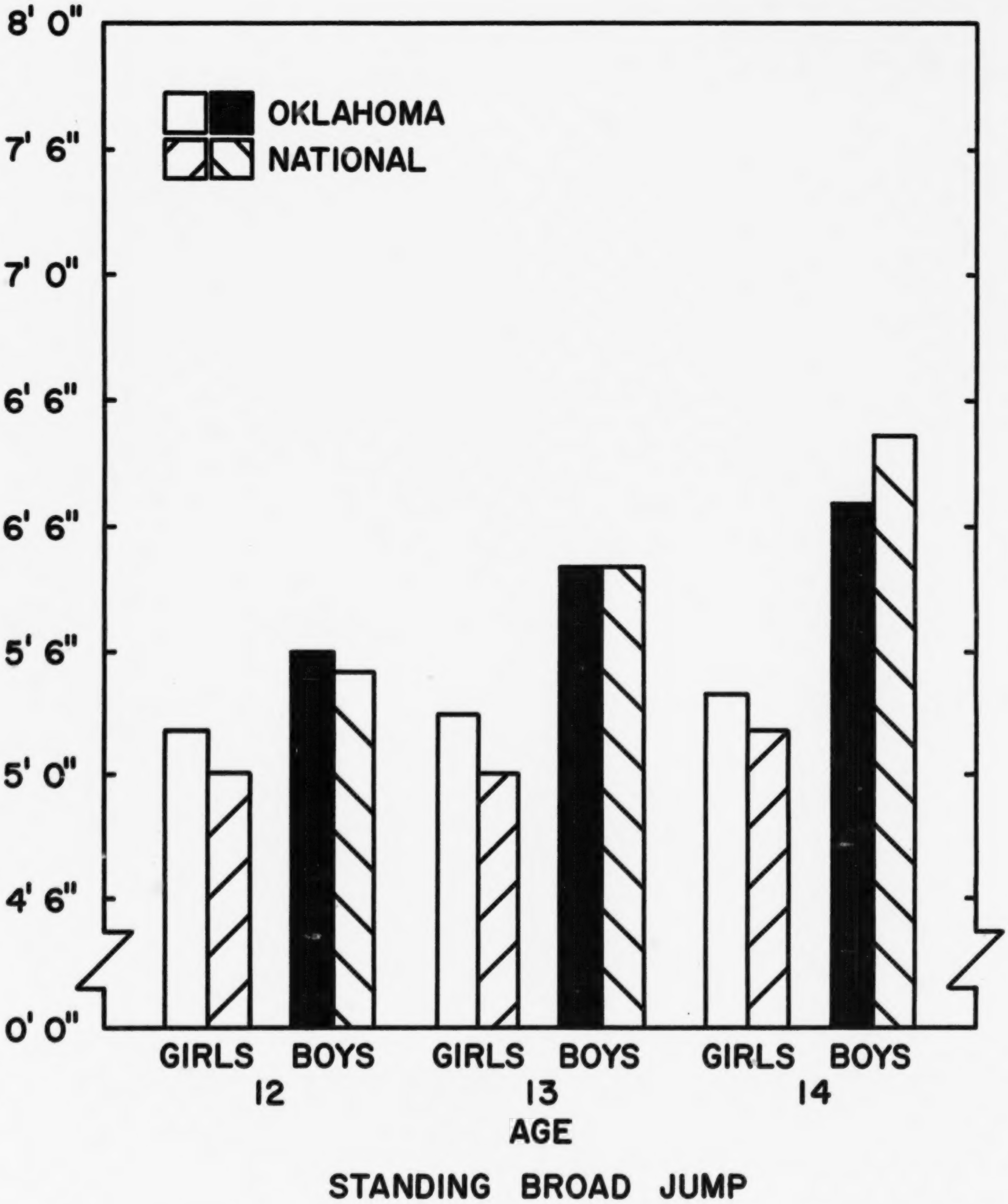
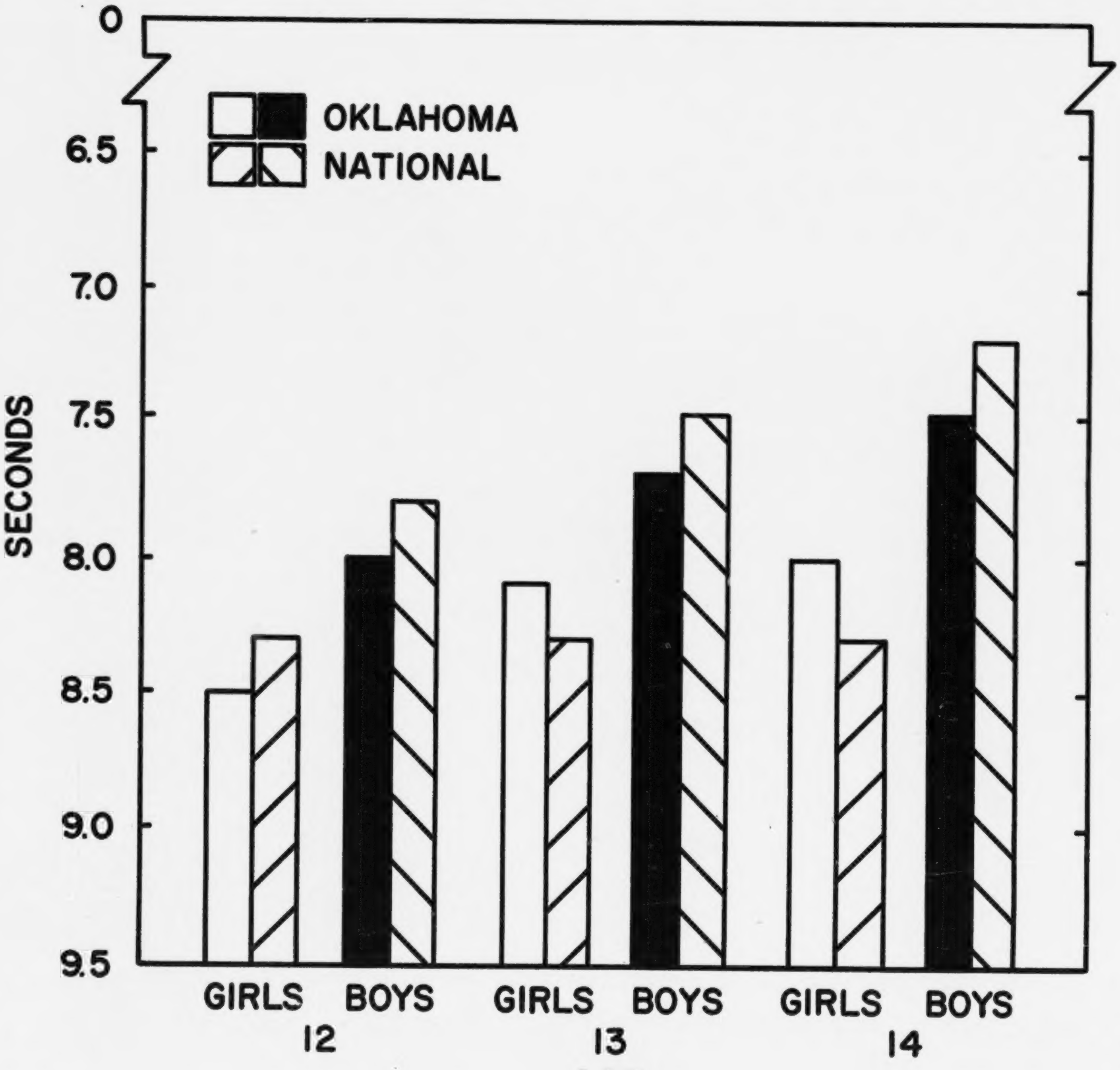
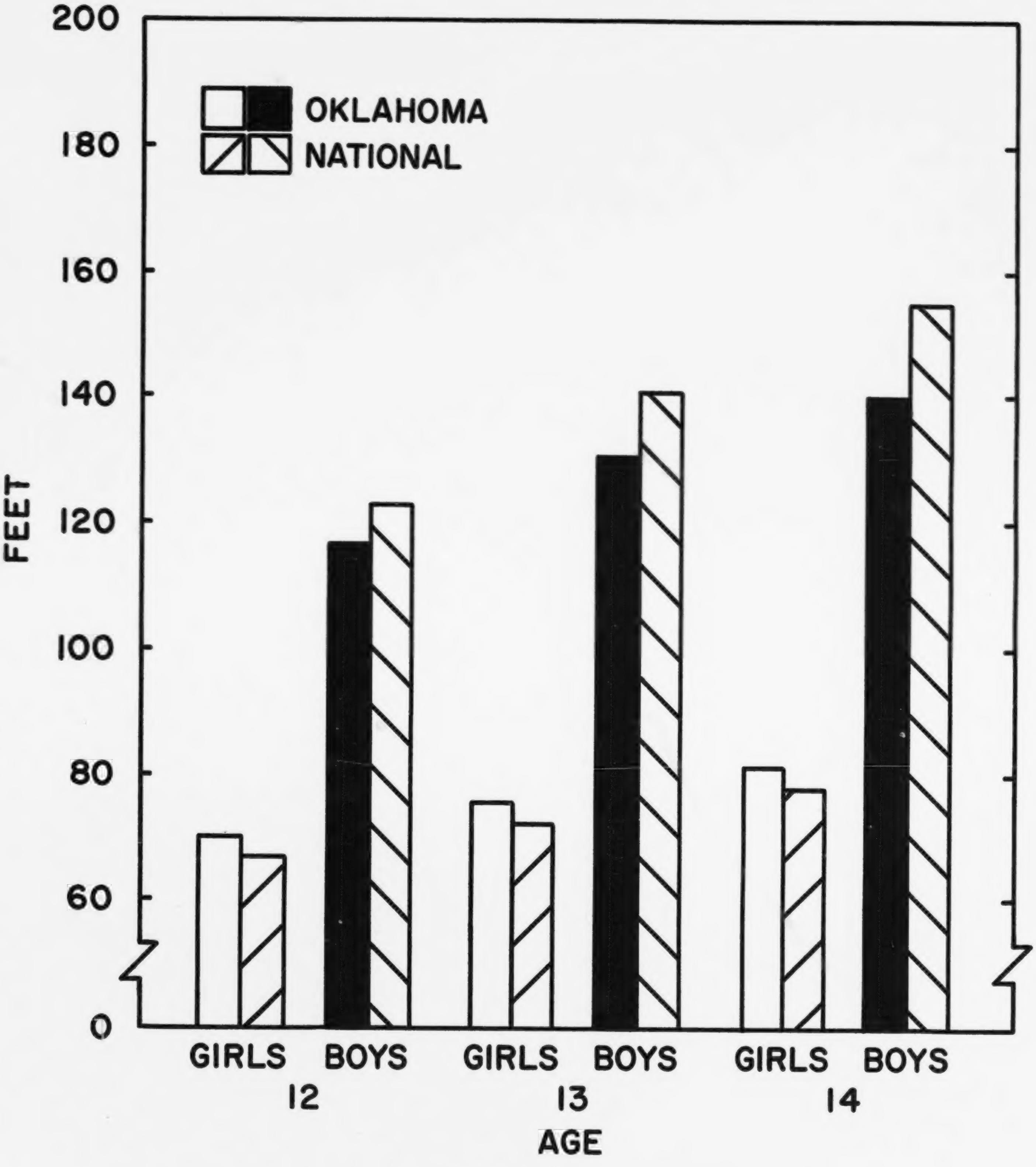

8' 0"
7' 6"
7' 0"
6' 6"
6' 6"
5' 6"
5' 0"
4' 6"
0' 0"
OKLAHOMA
NATIONAL
GIRLS
BOYS
GIRLS
BOYS
GIRLS
BOYS
12
13
14
AGE
STANDING BROAD JUMP

FIGURE 6



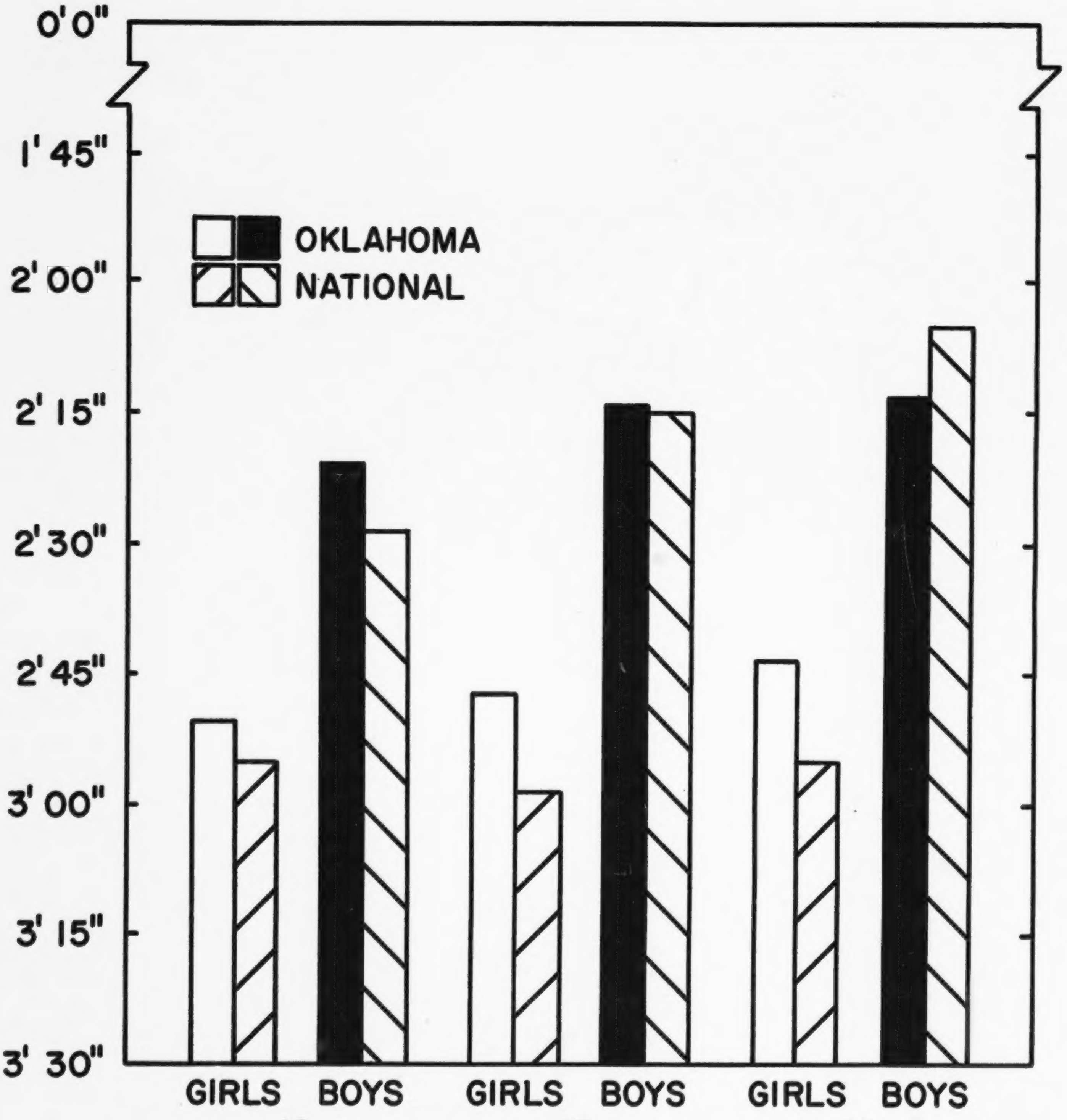
50 YARD DASH

FIGURE 7



SOFTBALL THROW

FIGURE 8



600 YARD RUN-WALK

TABLE 3

COMPARISON OF MEANS FOR BOYS DATA OKLAHOMA-NATIONAL WITH STANDARD ERRORS OF DIFFERENCES

Test	$\bar{X}_o$	SE_o	N_o	$\bar{X}_n$	SE_n	N_n	$\bar{X}_o-\bar{X}_n$	S.E. Diff.
PU-12	3.4	.1	578	2.9	.2	620	.5	.2*
SU-12	67.4	1.2	542	56.5	2.6	623	10.9	2.7*
SR-12	11.3	.1	635	11.1	.1	596	- .2	.1*
J-12	65.7	.4	555	65.3	.5	625	.4	.6
50-12	8.0	.1	614	7.9	.1	613	- .1	.1
T-12	116.3	1.5	406	122.9	1.4	627	-6.6	2.0*
600-12	141.0	.9	635	148.3	3.4	614	7.3	3.5*
PU-13	4.3	.1	894	3.9	.2	595	.4	.2*
SU-13	71.0	1.0	814	64.6	2.5	590	6.4	2.7*
SR-13	10.9	.1	912	10.8	.1	563	- .1	.1
J-13	70.2	.4	794	70.0	.6	595	.2	.7
50-13	7.7	--	867	7.5	--	575	- .2	--
T-13	130.7	1.3	665	141.2	1.7	588	-10.5	2.1*
600-13	134.4	.9	921	135.5	2.7	578	1.1	2.8
PU-14	5.1	.2	329	5.2	.3	548	- .1	.4
SU-14	68.7	1.7	289	69.9	2.4	545	-1.2	2.9
SR-14	10.9	.1	328	10.4	.1	530	- .5	.1*
J-14	72.7	.7	293	75.7	.8	547	-3.0	1.0*
50-14	7.5	.1	316	7.2	.1	530	- .3	.1*
T-14	139.5	2.2	267	154.5	2.2	538	-15.0	3.1*
600-14	133.2	1.6	331	125.9	2.3	534	-7.3	2.7*

*Significant at 5% level.

Note: Negative differences between means indicate those test items on which the national means were higher than the Oklahoma means.

TABLE 4

COMPARISON OF MEANS FOR GIRLS DATA OKLAHOMA-NATIONAL WITH STANDARD ERRORS OF DIFFERENCES

Test	$\bar{X}_o$	SE_o	N_o	$\bar{X}_n$	SE_n	N_n	$\bar{X}_o-\bar{X}_n$	S.E. Diff.
SU-12	36.3	.8	368	32.4	1.2	657	3.9	1.4*
SR-12	11.7	.1	378	11.7	.1	625	0.0	.1
J-12	62.4	.5	384	59.9	.6	652	2.5	.8*
50-12	8.5	.1	341	8.3	.1	641	- .2	.1*
T-12	68.7	1.3	331	66.8	2.1	655	1.9	2.5
600-12	171.0	1.7	357	175.0	3.8	652	4.0	4.1
SU-13	36.8	.6	553	32.2	1.4	593	4.6	1.5*
SR-13	11.6	.1	574	11.6	.1	571	0.0	.1
J-13	62.9	.4	591	60.3	.7	595	2.6	.8*
50-13	8.1	.1	546	8.3	.1	591	.2	.1*
T-13	76.7	1.0	542	71.9	1.9	598	4.8	2.1*
600-13	166.8	1.3	546	178.2	4.0	593	11.4	4.2*
SU-14	37.7	1.1	184	30.4	1.5	564	7.3	1.8*
SR-14	11.5	.1	194	11.5	.1	546	0.0	.1
J-14	64.4	.6	192	62.2	.7	562	2.2	.9*
50-14	8.0	.1	194	8.3	.1	547	.3	.1*
T-14	80.8	1.8	192	77.0	1.5	565	3.8	2.3
600-14	164.4	2.4	178	175.3	4.8	552	10.9	5.3*

*Significant at 5% level.

Note: Negative differences between means indicate those test items on which the national means were higher than the Oklahoma means.

the girls data show that Oklahoma girls in every tested age group had higher mean scores than the national sample of girls, with the exception of the 50-yard dash in the 12 year old group where the national sample had a higher mean score than the Oklahoma sample of girls.

Statistical comparisons of individual test items at each age level, using the .05 criterion level of significance, generated seven comparisons in which the national sample had a significantly higher mean score and eighteen comparisons in which the Oklahoma sample had higher mean scores. The total number of comparison for the entire sample of boys and girls was 38 in which the above 25 were statistically significant. In all cases (boys data only, girls data only, and boys and girls data combined) the number of significant findings was greater than would be expected as the result of chance ($P < .05$).

The boys data revealed that Oklahoma boys had significantly higher mean scores on the following tests: pull-up for 12 and 13 year olds; sit-ups for 12 and 13 year olds; and the 600-yard run-walk for the 12 year old age group. The national sample had significantly higher scores on the following comparisons; shuttle run for 12 and 14 year olds; standing broad jump for the 14 year olds; softball throw for the 12, 13, and 14 year olds; and 600-yard run-walk for the 14 year old group.

The girls data showed that Oklahoma girls had a higher mean score on all but one test item. However significance was found on only the following comparisons: sit-ups for 12, 13, and 14 year olds; standing broad jump for 12, 13, and 14 year olds; 50-yard dash for 13 and 14 year olds; softball throw for 13 year olds; and the 600-yard run-walk for the 13 and 14 year old age groups. The only comparison in which the national sample of girls was higher and also significant was the 50-yard dash for the 12 year old age group.

Due to the large number of percentile tables, they were placed in the appendix to facilitate reading (See Appendix A).

CHAPTER IV

SUMMARY

Two of the most interesting problems to develop from the 1965 national survey and comparison of youth fitness were the questions of the possible differences in fitness levels of pupils from various sections of the country, and how applicable the developed national norms and data were for the evaluation of fitness levels when the scope of interest is limited to a smaller geographic entity such as a state.

The purposes of this study were to compare the fitness level of Oklahoma youth with that of the national sample used in the 1965 study on youth fitness, and to develop Oklahoma norms for the items tested. The problem of developing an instrument was non-existent because the same items and test administration instructions in the 1965 study were used for the present study. The main limitation of the present study was in scope. The national survey involved a multi-staged probability sample of students representative of the national public school student population, and covered grades 5 through 12 throughout the coterminous United States. The Oklahoma study employed a random stratified sampling technique in the selection of Oklahoma 7th and 8th graders, and was representative of the Oklahoma student population involved in physical education programs. Aside from the differences in sampling, this study follows the same design as the 1958-1965 studies on youth fitness.

The primary channels of communication were by mail and telephone. Because of the familiarity of the test battery to Oklahoma teachers and the readily available testing and consultant staff for those schools willing to participate in the study but lacking facilities and/or personnel, it was deemed unnecessary to personally consult with each participating school unless they so requested.

The final stratified random sample of Oklahoma 7th and 8th graders included 2000 boys and 1600 girls which represented schools in 44 counties. A total of 135 schools in 77 counties were invited to participate in the study.

All the information requested which included test scores, participation in sports, school size, prior experience in physical education and other pertinent information, was precoded and transferred to IBM punch cards and tape from the test forms. The following analysis and statistical comparisons were made using an IBM 360 digital computer.

1. Percentile scores were developed from the scores of each test item for boys and girls in the 12, 13, and 14 year age groups.
2. Percentile scores were developed for boys and girls according to the Neilsen Cozen Classification Index.
3. Means and standard deviations of the test results were generated for both sexes in each tested age group.
4. Statistical comparisons of differences between the

means of the 1965 national data and the Oklahoma data were calculated.

5. Probabilities of obtaining the number of significant finding for the total number of comparisons were calculated.

Conclusion

The results of the present study indicate the following:

1. Oklahoma boys had higher mean scores on the following tests for 12 and 13 year olds:
    a. pull-up
    b. sit-up
    c. standing broad jump
    d. 600-yard run-walk.

   Of these test items, the Oklahoma sample was significantly higher on the pull-up and sit-up for the 12 and 13 year olds, and on the 600-yard run-walk for the 12 year old group.

2. The 1965 national sample of boys had higher scores on all seven test items for the 14 year old group, and on the following test items for the 12 and 13 year olds:
    a. shuttle run
    b. 50-yard dash
    c. softball throw.

   Of these test items, the national sample was significantly higher on the shuttle run for the 12 and 14 year olds, standing broad jump for the 14 year olds, softball throw for the 12, 13, and 14 year olds, and 600-yard run-walk for the 14 year old group.

3. In 20 comparisons, the Oklahoma sample had significantly higher mean scores on 5 tests, while the national sample was significantly higher than the Oklahoma sample on 7 items. This made for a total finding of 12 significant findings in 20 total mean comparisons. The probability of obtaining 12 significant comparisons was less than .05.
4. Oklahoma girls had higher scores on all test items in all age groups with the exception of the 50-yard dash in the 12 year old age group where the national sample scored higher. Of all the tested items, the Oklahoma sample was significantly higher on the sit-up and standing broad jump for the 12, 13, and 14 year age groups, 50-yard dash for the 13 and 14 year olds, softball throw for the 13 year olds, and 600-yard run-walk for the 13 and 14 year old groups.
5. The national sample of girls was significantly higher on the 50-yard dash for the 12 year old group.
6. In 18 comparisons, the Oklahoma sample of girls had significantly higher scores than the national sample on 11 test items and the national sample was significant on 1. The probability of obtaining 12 significant findings in 18 comparisons was calculated to be less than .05.

7. The national sample of boys had higher mean scores on the two items that dealt with speed (shuttle run; 50-yard dash) and on the item that primarily dealt with skill and coordination (softball throw). Significance was obtained in 3 cases out of 5 comparison that dealt with speed, and in all the cases that dealt with the measurement of skill and coordination of throwing a softball for distance.
8. The 12 and 13 year old age group of Oklahoma students generally scored better than their comparable group in the national sample, while the Oklahoma group of 14 year olds scored lower than the comparable group in the national sample. Of a total of 13 comparisons, Oklahoma 12 and 13 year old students had higher mean scores on 8 and the national sample had higher mean scores on 5. Of these 8 comparisons the Oklahoma group was significantly higher in 5 cases. Of the 5 comparisons in which the national sample had higher mean scores, 3 cases were significant. In the 14 year old group, the national sample was significantly higher in 5 items out of a total 7 items tested.
9. The variability of the Oklahoma sample was comparable to that of the national sample, however, the Oklahoma sample generated lower standard errors in most cases.

Discussion

Of a total of 38 comparisons between Oklahoma and national means, 25 were found to be significantly different at or beyond the .05 level of significance. This greatly exceeded the number of significant differences that might be expected to occur due to chance. The implication of these findings is not the direction of differences, but that discrepencies do exist between locally generated data and nationally generated data. It seems reasonable that 25 significant differences out of a total of 38 comparisons would make one question the applicability of the national set of data to a smaller geographic entity such as an individual state. Many questions may arise as to the use of statistics to determine significance between means with small differences. Although significance may be found between means where a difference of a tenth of a second may exist, the importance of such differences must be determined by the individual teacher. Given a large enough number of subjects, it is possible to reject almost any null hypothesis no matter how small the difference between the means of each population. The teacher's focus may then be on the purposes for which the data will be used. In any case, local and national scores are now available to Oklahoma teachers. Theoretically it seems more desirable to generate one's own data when local controls are available so that the data best represents the population to which it will be applied; but given the expense of such data gathering, each investigator must decide for himself if the increase in applicability is worth the cost of generating new data. The authors conclude that the present findings indicate that the national study is not always applicable to a local region. If one examines the norms it is evident that the Oklahoma subjects generated higher scores in most cases than did the comparable national subjects. The implication here is not that the Oklahoma subjects are better or more fit, it is simply that the national norms do not apply in some cases to the needs of a state or to the uniqueness of the program or population from which a state sample is drawn.

The explanation of the differences can most likely be attributed to the characteristics of the Oklahoma sample. First, it was drawn from schools that indicated a willingness to participate in the study. Second, the students involved were primarily involved in physical education programs. Finally, there is the methodology of sampling by a stratified random technique. The very nature of using self-selected subjects would indicate that those willing to be involved in the study would do better on the tests by eliminating many schools, particularly from small towns, which lack physical education facilities and programs. The involvement of students from physical education programs would also tend to eliminate many students who would score poorly. In addition, the methodology of stratified random selection does not necessarily insure representativeness, but does decrease variability on those strata used. Many of the differences found in the present study may be attributed to these three characteristics of the Oklahoma sample.

The question may arise as to why a different sampling technique was used compared to that used in the national study. The norms generated in this particular study most closely approximates the norms that would be most often used by the population of students in Oklahoma. Those schools and counties that did not reply to this study are those that generally do not have programs of physical education and therefore would not use either the data generated in this study or that in the national study. Since a primary objective of this study was to serve that group of students that are involved in physical education, the present data seems most appropriate.

An examination of the boys data reveals that the national sample scored higher on those items which involved speed. This particular result was somewhat surprising since it would seem that the variability of speed is a measure in which little if any difference would be found. No systematic variation that might account for this result is available except that the Oklahoma test items were almost all administered indoors. Any item involving speed might then be expected to differ due to the difference in running surface. The girls data seem to indicate a different trend. This might be accounted for by the fact that the sample of girls was much smaller and a rough examination of the original data sheet indicates that the girls forms were completed with far more consistent accuracy and detail. This might indicate a self-selecting process involving those girls who scored well on the test. Unlike the boys, girls that did not score well on items might not have been required to finish the entire test battery.

The authors conclude that the applicability of national fitness norms to evaluate fitness programs in the state of Oklahoma is questionable. Whether national norms are applicable to other states still remains to be answered. The source of variation of data is attributed to the characteristics of each group, however the conclusion that was reached in the 1965 study might be applied here. The factor of elapsed time between the two samples might account for differences in many cases due simply to the improvement of all 7th and 8th grade children. This question cannot be fully answered without concurrent studies on both a local and national basis.

A second question sought to be answered by this study was whether a larger study involving all grades should be conducted. The present study has shown statistical differences between the two samples which would imply that new data should be generated. However, it is recommended that before any full scale study is undertaken, the investigators should first determine whether the population to be studied is sufficiently interested and large enough to justify such a large study.

It is hoped that Oklahoma teachers will find the results of this study helpful, for the final worth and justification of any such study lies with those who might directly profit from the results.

SELECTED BIBLIOGRAPHY

1. American Association for Health, Physical Education, and Recreation, Youth Fitness Test Manual, Revised Edition, Washington, D. C.: The Association, A Department of the National Education Association, 1965.

2. Campbell, William R. and Richard Pohndorf, "Physical Fitness of British and United States Children," Health and Fitness in the Modern World; a collection of papers presented at the Institute of Normal Anatomy, Rome, Italy, 1960.

3. Collins, George J. and J. Scott Hunter, "Physical Achievement and the Schools," Bureau of Educational Research and Development, Office of Education Bulletin No. 13, 1965.

4. Espenschade, Anna, "Restudy of Relationships Between Physical Performance of School Children and Age, Height, and Weight," Research Quarterly, 34:144-153, May 1963.

5. Fleishman, Edwin A., The Structure and Measurement of Physical Fitness, Englewood Cliffs, New Jersey, Prentice-Hall, 1964.

6. Gross, Elmer and Jerome Casciani, "The Value of Age, Height, and Weight as a Classification Device for Secondary School Students in the Seven AAHPER Youth Fitness Tests," Research Quarterly, 33:51-58, March 1962.

7. Hunsicker, Paul A. and Guy G. Reiff, "A Survey and Comparison of Youth Fitness 1958-1965," a report of cooperative research project no. 2418, 1965.

8. Kraus, Hans and Ruth Hirschland, "Muscular Fitness and Health," Journal of Health, Physical Education, and Recreation, 24:10-17, December 1953.

9. Kraus, Hans and Bonnie Prudden, "Minimum Muscular Fitness in School Children," Research Quarterly, 25:178-188, May 1954.

10. Kraus, Hans and Wilhelm Raab, Hypokinetic Disease, Springfield, Illinois: Charles C. Thomas, 1961.

11. Olree, Harry et al., "Evaluation of the AAHPER Youth Fitness Tests," Journal of Sports Medicine and Physical Fitness, 5:67-71, June, 1965.

12. Skubic, Vera and Jean Hodgkins, "Cardiovascular Efficiency Test Scores for Junior and Senior High School Girls in the United States," Research Quarterly, 35:184-192, May, 1964.

APPENDIX A

PERCENTILE TABLES

TABLE 1

PULL-UPS FOR BOYS
(Percentile Scores Based on Age)

Percentile	Oklahoma Norms			National Norms			Percentile
	Age			Age			
	12	13	14	12	13	14	
100th	20	31	23	15	24	20	100th
95th	10	11	12	9	10	12	95th
90th	8	9	10	7	9	10	90th
85th	7	8	9	6	8	10	85th
80th	6	7	8	5	7	8	80th
75th	5	6	7	5	6	8	75th
70th	5	6	7	4	5	7	70th
65th	4	5	6	3	5	6	65th
60th	3	5	5	3	4	6	60th
55th	3	4	5	3	4	5	55th
50th	3	4	5	2	3	5	50th
45th	2	3	4	2	3	4	45th
40th	2	3	4	1	2	4	40th
35th	1	2	3	1	2	3	35th
30th	1	2	2	1	1	2	30th
25th	1	1	2	0	1	2	25th
20th	0	1	1	0	0	2	20th
15th	0	0	1	0	0	1	15th
10th	0	0	0	0	0	0	10th
5th	0	0	0	0	0	0	5th
0th	0	0	0	0	0	0	0th

TABLE 2

SIT-UPS FOR BOYS
(Percentile Scores Based on Age)

Percentile	Oklahoma Norms 12	Oklahoma Norms 13	Oklahoma Norms 14	National Norms 12	National Norms 13	National Norms 14	Percentile
100th	100	100	100	100	100	100	100th
95th	100	100	100	100	100	100	95th
90th	100	100	100	100	100	100	90th
85th	100	100	100	100	100	100	85th
80th	100	100	100	100	100	100	80th
75th	100	100	100	93	100	100	75th
70th	99	100	100	75	99	100	70th
65th	85	99	99	70	90	99	65th
60th	80	94	85	59	75	99	60th
55th	75	80	76	52	70	77	55th
50th	70	75	70	50	60	70	50th
45th	61	72	64	49	53	62	45th
40th	58	63	56	42	50	60	40th
35th	52	55	51	40	50	52	35th
30th	50	50	50	35	41	50	30th
25th	43	48	50	30	38	45	25th
20th	40	41	41	28	35	40	20th
15th	32	35	37	25	30	36	15th
10th	27	30	29	20	25	30	10th
5th	21	22	21	15	20	24	5th
0th	1	1	2	0	1	6	0th

TABLE 3

SHUTTLE RUN FOR BOYS
(Percentile Scores Based on Age)

Percentile	Oklahoma Norms			National Norms			Percentile
	Age			Age			
	12	13	14	12	13	14	
100th	7.5	7.5	8.2	8.5	8.0	8.3	100th
95th	9.6	9.4	9.3	9.8	9.5	9.3	95th
90th	9.9	9.6	9.5	10.0	9.8	9.5	90th
85th	10.0	9.8	9.6	10.0	9.9	9.6	85th
80th	10.2	10.0	9.8	10.2	10.0	9.8	80th
75th	10.4	10.0	9.9	10.3	10.1	9.9	75th
70th	10.5	10.1	10.0	10.5	10.2	9.9	70th
65th	10.6	10.3	10.1	10.6	10.3	10.0	65th
60th	10.8	10.4	10.2	10.7	10.4	10.0	60th
55th	11.0	10.5	10.4	10.9	10.5	10.2	55th
50th	11.0	10.7	10.5	11.0	10.6	10.2	50th
45th	11.1	10.8	10.6	11.0	10.8	10.3	45th
40th	11.3	11.0	10.8	11.1	10.9	10.5	40th
35th	11.5	11.0	11.0	11.3	11.0	10.5	35th
30th	11.6	11.2	11.1	11.5	11.1	10.7	30th
25th	11.9	11.4	11.4	11.6	11.3	10.9	25th
20th	12.0	11.6	11.8	11.9	11.5	11.0	20th
15th	12.3	12.0	12.0	12.0	11.8	11.2	15th
10th	12.8	12.4	12.3	12.4	12.0	11.5	10th
5th	13.2	13.4	13.3	13.0	12.5	12.0	5th
0th	22.0	20.0	23.0	22.0	16.0	16.0	0th

TABLE 4

STANDING BROAD JUMP FOR BOYS
(Percentile Scores Based on Age)

Percentile	Oklahoma Norms			National Norms			Percentile
	Age			Age			
	12	13	14	12	13	14	
100th	7' 6"	8' 5"	8' 5"	7'10"	8' 9"	8'11"	100th
95th	6'10"	7' 3"	7' 4"	6' 6"	7' 2"	7' 9"	95th
90th	6' 6"	6'11"	7' 0"	6' 4"	6'11"	7' 5"	90th
85th	6' 3"	6' 8"	6'11"	6' 2"	6' 9"	7' 3"	85th
80th	6' 2"	6' 6"	6' 9"	6' 1"	6' 7"	7' 0"	80th
75th	6' 0"	6' 5"	6' 7"	6' 0"	6' 5"	6'11"	75th
70th	5'11"	6' 3"	6' 6"	5'11"	6' 3"	6' 9"	70th
65th	5'10"	6' 2"	6' 4"	5' 9"	6' 1"	6' 8"	65th
60th	5' 8"	6' 0"	6' 3"	5' 8"	6' 0"	6' 7"	60th
55th	5' 7"	6' 0"	6' 2"	5' 7"	5'11"	6' 6"	55th
50th	5' 6"	5'11"	6' 1"	5' 6"	5'10"	6' 4"	50th
45th	5' 5"	5' 9"	6' 0"	5' 5"	5' 9"	6' 3"	45th
40th	5' 4"	5' 8"	5'10"	5' 4"	5' 7"	6' 1"	40th
35th	5' 2"	5' 7"	5' 9"	5' 2"	5' 6"	6' 0"	35th
30th	5' 1"	5' 6"	5' 8"	5' 1"	5' 5"	5'10"	30th
25th	5' 0"	5' 4"	5' 6"	5' 0"	5' 3"	5' 8"	25th
20th	4'10"	5' 3"	5' 4"	4'10"	5' 2"	5' 6"	20th
15th	4' 7"	5' 0"	5' 2"	4' 8"	5' 0"	5' 4"	15th
10th	4' 5"	4'10"	5' 0"	4' 5"	4' 9"	5' 2"	10th
5th	4' 2"	4' 6"	4' 9"	4' 2"	4' 5"	4'11"	5th
0th	3' 0"	3' 2"	3' 0"	3' 0"	2' 9"	3' 8"	0th

TABLE 5

50-YARD DASH FOR BOYS
(Percentile Scores Based on Age)

Percentile	Oklahoma Norms			National Norms			Percentile
	Age			Age			
	12	13	14	12	13	14	
100th	6.0	5.5	5.5	6.0	5.8	5.8	100th
95th	7.0	6.5	6.3	6.8	6.5	6.3	95th
90th	7.1	6.8	6.5	7.0	6.7	6.4	90th
85th	7.2	6.9	6.7	7.0	6.9	6.6	85th
80th	7.3	7.0	6.8	7.2	7.0	6.7	80th
75th	7.4	7.1	6.9	7.3	7.0	6.8	75th
70th	7.5	7.2	7.0	7.5	7.1	6.9	70th
65th	7.6	7.2	7.0	7.5	7.2	7.0	65th
60th	7.7	7.3	7.1	7.6	7.3	7.0	60th
55th	7.8	7.4	7.2	7.8	7.4	7.0	55th
50th	7.8	7.5	7.3	7.8	7.5	7.1	50th
45th	7.9	7.6	7.4	7.9	7.5	7.2	45th
40th	8.0	7.7	7.5	8.0	7.6	7.2	40th
35th	8.1	7.8	7.6	8.0	7.7	7.3	35th
30th	8.2	7.9	7.8	8.2	7.9	7.5	30th
25th	8.3	8.0	8.0	8.3	8.0	7.6	25th
20th	8.5	8.2	8.1	8.4	8.0	7.8	20th
15th	8.8	8.4	8.4	8.6	8.2	8.0	15th
10th	9.0	8.7	8.6	8.9	8.4	8.1	10th
5th	9.5	9.1	9.0	9.2	8.9	8.6	5th
0th	12.0	12.0	11.2	12.0	11.1	11.6	0th

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TABLE 6

SOFTBALL THROW FOR BOYS
(Percentile Scores Based on Age)

Percentile	Oklahoma Norms Age 12	Oklahoma Norms Age 13	Oklahoma Norms Age 14	National Norms Age 12	National Norms Age 13	National Norms Age 14	Percentile
100th	204	240	290	207	245	246	100th
95th	165	184	195	165	195	208	95th
90th	154	171	183	156	183	195	90th
85th	146	162	175	150	175	187	85th
80th	138	156	168	145	168	181	80th
75th	134	151	162	141	163	176	75th
70th	130	147	155	136	157	172	70th
65th	127	141	152	133	152	168	65th
60th	124	138	147	129	147	165	60th
55th	120	135	142	124	142	160	55th
50th	119	132	138	120	140	155	50th
45th	116	128	135	119	135	150	45th
40th	112	124	132	115	131	146	40th
35th	105	120	129	112	128	141	35th
30th	101	117	125	110	125	138	30th
25th	98	113	120	106	120	133	25th
20th	94	109	117	103	115	127	20th
15th	90	102	110	97	110	122	15th
10th	80	94	99	92	101	112	10th
5th	61	72	82	76	88	102	5th
0th	20	22	33	25	50	31	0th

TABLE 7

600 RUN-WALK FOR BOYS
(Percentile Scores Based on Age)

Percentile	Oklahoma Norms Age			National Norms Age			Percentile
	12	13	14	12	13	14	
100th	1'28"	1'15"	1'27"	1'31"	1'29"	1'25"	100th
95th	1'51"	1'45"	1'43"	1'52"	1'46"	1'37"	95th
90th	1'58"	1'50"	1'46"	2' 0"	1'50"	1'42"	90th
85th	2' 1"	1'54"	1'48"	2' 2"	1'53"	1'46"	85th
80th	2' 4"	1'56"	1'52"	2' 5"	1'55"	1'48"	80th
75th	2' 6"	2' 0"	1'57"	1' 9"	1'59"	1'51"	75th
70th	2' 8"	2' 1"	2' 0"	2'11"	2' 1"	1'53"	70th
65th	2'10"	2' 3"	2' 2"	2'13"	2' 3"	1'55"	65th
60th	2'13"	2' 5"	2' 4"	2'15"	2' 5"	1'57"	60th
55th	2'15"	2' 8"	2' 6"	2'18"	2' 7"	1'59"	55th
50th	2'17"	2'10"	2' 8"	2'21"	2'10"	2' 1"	50th
45th	2'19"	2'12"	2'10"	2'24"	2'12"	2' 3"	45th
40th	2'22"	2'14"	2'13"	2'26"	2'15"	2' 5"	40th
35th	2'25"	2'17"	2'15"	2'30"	2'17"	2' 9"	35th
30th	2'28"	2'19"	2'18"	2'34"	2'22"	2'11"	30th
25th	2'31"	2'22"	2'20"	2'39"	2'25"	2'14"	25th
20th	2'36"	2'26"	2'26"	2'47"	2'30"	2'19"	20th
15th	2'43"	2'32"	2'31"	2'57"	2'35"	2'25"	15th
10th	2'50"	2'42"	2'40"	3' 8"	2'45"	2'33"	10th
5th	3' 1"	3' 0"	3' 1"	3'32"	3' 3"	2'47"	5th
0th	5' 0"	7'20"	5' 5"	4'55"	5'14"	5'10"	0th

TABLE 8

FLEXED ARM HANG FOR GIRLS
(Percentile Scores Based on Age)

Percentile	Oklahoma Norms			National Norms			Percentile
	Age			Age			
	12	13	14	12	13	14	
100th	46	90	31	64	80	60	100th
95th	27	25	20	30	30	30	95th
90th	20	20	20	23	21	22	90th
85th	20	20	20	19	18	19	85th
80th	20	20	20	15	15	16	80th
75th	17	19	20	13	13	13	75th
70th	14	17	19	11	12	11	70th
65th	13	15	18	10	10	10	65th
60th	11	14	16	8	9	9	60th
55th	10	12	13	8	8	8	55th
50th	9	10	11	6	7	7	50th
45th	8	9	9	6	6	6	45th
40th	7	8	8	5	5	5	40th
35th	6	6	7	4	4	4	35th
30th	5	5	5	3	3	3	30th
25th	4	4	4	2	2	2	25th
20th	3	3	3	1	2	1	20th
15th	1	2	2	0	1	1	15th
10th	0	1	1	0	0	0	10th
5th	0	0	0	0	0	0	5th
0th	0	0	0	0	0	0	0th

TABLE 9

SIT-UPS FOR GIRLS
(Percentile Scores Based on Age)

Percentile	Oklahoma Norms			National Norms			Percentile
	Age			Age			
	12	13	14	12	13	14	
100th	50	50	50	50	50	50	100th
95th	50	50	50	50	50	50	95th
90th	50	50	50	50	50	50	90th
85th	50	50	50	50	50	50	85th
80th	50	50	50	50	50	49	80th
75th	50	50	50	50	50	42	75th
70th	50	50	50	50	45	37	70th
65th	50	50	50	40	40	35	65th
60th	50	50	50	39	38	34	60th
55th	46	50	50	35	35	31	55th
50th	41	45	49	32	31	30	50th
45th	36	37	40	30	30	27	45th
40th	33	33	35	26	27	25	40th
35th	30	30	31	25	25	23	35th
30th	26	27	30	22	22	21	30th
25th	23	24	25	20	20	20	25th
20th	20	20	21	18	19	18	20th
15th	18	19	20	16	15	16	15th
10th	15	15	17	13	12	13	10th
5th	12	10	14	7	10	10	5th
0th	1	2	6	0	0	0	0th

TABLE 10

SHUTTLE RUN FOR GIRLS
(Percentile Scores Based on Age)

Percentile	Oklahoma Norms			National Norms			Percentile
	Age			Age			
	12	13	14	12	13	14	
100th	9.0	8.6	8.2	9.0	8.3	9.0	100th
95th	10.2	9.9	9.9	10.0	10.0	10.0	95th
90th	10.5	10.1	10.1	10.2	10.2	10.3	90th
85th	10.6	10.3	10.2	10.5	10.5	10.4	85th
80th	10.8	10.4	10.4	10.8	10.6	10.5	80th
75th	10.9	10.5	10.4	10.9	10.8	10.6	75th
70th	11.0	10.7	10.5	11.0	11.0	10.8	70th
65th	11.0	10.8	10.6	11.2	11.0	10.9	65th
60th	11.1	11.0	10.7	11.3	11.1	11.0	60th
55th	11.2	11.0	11.0	11.5	11.3	11.1	55th
50th	11.4	11.2	11.0	11.6	11.4	11.3	50th
45th	11.5	11.4	11.2	11.8	11.6	11.4	45th
40th	11.8	11.5	11.3	11.9	11.8	11.5	40th
35th	11.9	11.6	11.5	12.0	12.0	11.7	35th
30th	12.0	11.8	11.6	12.1	12.0	12.0	30th
25th	12.1	12.0	12.0	12.3	12.2	12.0	25th
20th	12.3	12.3	12.3	12.5	12.5	12.3	20th
15th	12.6	12.8	12.6	12.9	13.0	12.6	15th
10th	13.0	13.4	13.0	13.2	13.3	13.1	10th
5th	13.7	14.6	14.8	13.9	14.0	13.9	5th
0th	26.5	27.0	19.5	19.8	18.5	17.6	0th

TABLE 11

STANDING BROAD JUMP FOR GIRLS
(Percentile Scores Based on Age)

Percentile	Oklahoma Norms			National Norms			Percentile
	Age			Age			
	12	13	14	12	13	14	
100th	8' 6"	8' 0"	7' 0"	8' 2"	7' 6"	7' 4"	100th
95th	6' 6"	6' 5"	6' 6"	6' 3"	6' 3"	6' 4"	95th
90th	6' 3"	6' 2"	6' 4"	6' 3"	6' 0"	6' 2"	90th
85th	6' 0"	6' 0"	6' 2"	5' 9"	5'10"	6' 0"	85th
80th	5'10"	5'11"	6' 1"	5' 8"	5' 8"	5'10"	80th
75th	5' 8"	5'10"	6' 0"	5' 6"	5' 6"	5' 9"	75th
70th	5' 6"	5' 8"	5'11"	5' 5"	5' 5"	5' 7"	70th
65th	5' 5"	5' 6"	5'10"	5' 4"	5' 4"	5' 6"	65th
60th	5' 4"	5' 5"	5' 8"	5' 2"	5' 3"	5' 5"	60th
55th	5' 3"	5' 4"	5' 6"	5' 1"	5' 2"	5' 4"	55th
50th	5' 2"	5' 3"	5' 5"	5' 0"	5' 0"	5' 3"	50th
45th	5' 1"	5' 2"	5' 3"	4'11"	5' 0"	5' 1"	45th
40th	5' 0"	5' 1"	5' 2"	4' 9"	4'10"	5' 0"	40th
35th	5' 0"	5' 0"	5' 1"	4' 8"	4' 8"	5' 0"	35th
30th	4'10"	5' 0"	5' 0"	4' 7"	4' 6"	4' 9"	30th
25th	4' 8"	4'10"	4'11"	4' 5"	4' 6"	4' 8"	25th
20th	4' 6"	4' 8"	4' 8"	4' 4"	4' 4"	4' 6"	20th
15th	4' 5"	4' 6"	4' 7"	4' 2"	4' 2"	4' 3"	15th
10th	4' 3"	4' 2"	4' 5"	4' 0"	4' 0"	4' 1"	10th
5th	4' 0"	3'11"	4' 2"	3' 8"	3' 9"	3'10"	5th
0th	2' 5"	2' 9"	3' 6"	2'11"	2'11"	3' 0"	0th

TABLE 12

50-YARD DASH FOR GIRLS
(Percentile Scores Based on Age)

Percentile	Oklahoma Norms			National Norms			Percentile
	Age			Age			
	12	13	14	12	13	14	
100th	6.9	6.3	6.0	5.9	6.0	6.0	100th
95th	7.3	7.0	6.8	7.0	7.0	7.0	95th
90th	7.4	7.1	7.0	7.3	7.3	7.2	90th
85th	7.6	7.3	7.0	7.5	7.5	7.4	85th
80th	7.7	7.4	7.1	7.6	7.6	7.5	80th
75th	7.9	7.5	7.3	7.8	7.7	7.6	75th
70th	8.0	7.5	7.3	7.9	7.8	7.7	70th
65th	8.0	7.6	7.4	8.0	7.9	7.8	65th
60th	8.2	7.8	7.5	8.0	8.0	7.9	60th
55th	8.2	7.9	7.7	8.1	8.0	8.0	55th
50th	8.4	8.0	7.8	8.2	8.1	8.0	50th
45th	8.5	8.0	8.0	8.3	8.2	8.2	45th
40th	8.5	8.1	8.0	8.4	8.4	8.3	40th
35th	8.7	8.3	8.1	8.5	8.5	8.5	35th
30th	8.9	8.4	8.3	8.7	8.6	8.6	30th
25th	9.0	8.5	8.5	8.9	8.8	8.9	25th
20th	9.1	8.8	8.8	9.0	9.0	9.0	20th
15th	9.3	9.0	9.0	9.2	9.2	9.2	15th
10th	9.5	9.2	9.1	9.5	9.5	9.5	10th
5th	9.9	9.6	10.0	10.0	10.2	10.4	5th
0th	13.0	12.1	13.0	13.0	15.7	16.0	0th

TABLE 13

SOFTBALL THROW FOR GIRLS
(Percentile Scores Based on Age)

Percentile	Oklahoma Norms			National Norms			Percentile
	Age			Age			
	12	13	14	12	13	14	
100th	210	176	170	159	150	156	100th
95th	110	117	126	103	111	114	95th
90th	97	105	110	96	102	103	90th
85th	91	99	105	90	94	100	85th
80th	85	95	101	85	90	95	80th
75th	81	90	99	80	86	90	75th
70th	76	88	94	76	82	87	70th
65th	75	85	92	74	79	84	65th
60th	72	82	88	70	75	80	60th
55th	69	78	84	67	73	78	55th
50th	66	75	81	64	70	75	50th
45th	64	73	77	61	68	72	45th
40th	62	70	72	59	65	70	40th
35th	59	67	70	57	63	68	35th
30th	57	64	67	54	60	65	30th
25th	54	61	62	50	57	61	25th
20th	50	58	59	48	53	59	20th
15th	47	54	56	45	49	54	15th
10th	45	48	52	41	45	50	10th
5th	38	41	42	37	36	45	5th
0th	15	12	24	20	20	25	0th

TABLE 14

600 RUN-WALK FOR GIRLS
(Percentile Scores Based on Age)

Percentile	Oklahoma Norms			National Norms			Percentile
	Age			Age			
	12	13	14	12	13	14	
100th	1'54"	1'58"	1'51"	1'39"	1'40"	1'45"	100th
95th	2'12"	2' 7"	2' 5"	2'14"	2'12"	2' 9"	95th
90th	2'18"	2'14"	2'13"	2'20"	2'19"	2'18"	90th
85th	2'22"	2'18"	2'16"	2'24"	2'25"	2'22"	85th
80th	2'25"	2'23"	2'20"	2'27"	2'29"	2'25"	80th
75th	2'28"	2'25"	2'22"	2'31"	2'33"	2'30"	75th
70th	2'31"	2'28"	2'25"	2'35"	2'37"	2'34"	70th
65th	2'34"	2'32"	2'27"	2'39"	2'40"	2'37"	65th
60th	2'37"	2'35"	2'33"	2'42"	2'44"	2'41"	60th
55th	2'40"	2'38"	2'35"	2'45"	2'47"	2'44"	55th
50th	2'44"	2'40"	2'38"	2'49"	2'52"	2'46"	50th
45th	2'49"	2'44"	2'40"	2'55"	2'56"	2'51"	45th
40th	2'53"	2'47"	2'42"	2'58"	3' 0"	2'55"	40th
35th	2'57"	2'54"	2'44"	3' 3"	3' 3"	3' 0"	35th
30th	3' 0"	2'59"	2'50"	3' 7"	3' 9"	3' 6"	30th
25th	3' 7"	3' 2"	2'58"	3'11"	3'15"	3'12"	25th
20th	3'16"	3' 8"	3' 4"	3'18"	3'20"	3'19"	20th
15th	3'22"	3'15"	3'10"	3'24"	3'30"	3'30"	15th
10th	3'31"	3'24"	3'28"	3'40"	3'49"	3'48"	10th
5th	3'52"	3'43"	3'47"	4' 0"	4'11"	4' 8"	5th
0th	5' 0"	5'14"	4'56"	5'10"	5'10"	5'50"	0th

TABLE 15

CLASSIFICATION INDEX FOR BOYS AND GIRLS
(Grades 7 and 8)

Exponent	Age (Months)	Height (Inches	Weight (Lbs.)	Sum of Exponents	Class
1	120-125	50-51	60-65	0-9	A
2	126-131	52-53	66-70	10-14	B
3	132-137		71-75	15-19	C
4	138-143	54-55	76-80	20-24	D
5	144-149		81-85	25-29	E
6	150-155	56-57	86-90	30-34	F
7	156-161		91-95	35-38	G
8	162-167	58-59	96-100	39-above	H
9	168-173		101-105		
10	174-179	60-61	106-110		
11	180-185		111-115		
12	186-191	62-63	116-120		
13	192-197		121-125		
14	198-203	64-65	126-130		
15	204-209	66-67	131-133		
16	210-215	68	134-136		
17	216-	69	137		

TABLE 16

PULL-UPS FOR BOYS
(Percentile Scores Based on Classification Index)

Percentile	Oklahoma Norms						Percentile
	Classification Index						
	C	D	E	F	G	H	
100th	20	20	31	20	23	24	100th
95th	11	11	10	11	12	10	95th
90th	10	9	8	10	10	9	90th
85th	9	7	7	8	9	8	85th
80th	8	7	6	7	8	7	80th
75th	7	6	5	6	7	7	75th
70th	6	5	5	6	6	6	70th
65th	6	4	5	5	5	5	65th
60th	5	4	4	5	5	5	60th
55th	5	4	4	4	4	4	55th
50th	5	3	3	4	3	3	50th
45th	4	3	3	3	3	3	45th
40th	4	3	2	3	2	2	40th
35th	3	2	2	2	1	2	35th
30th	3	2	1	2	1	1	30th
25th	2	1	1	1	0	1	25th
20th	2	1	1	1	0	0	20th
15th	1	1	0	1	0	0	15th
10th	1	0	0	0	0	0	10th
5th	0	0	0	0	0	0	5th
0th	0	0	0	0	0	0	0th

TABLE 17

PULL-UPS FOR BOYS
(Percentile Scores Based on Classification Index)

Percentile	National Norms						Percentile
	Classification Index						
	C	D	E	F	G	H	
100th	16	16	18	20	17	24	100th
95th	8	9	9	11	12	12	95th
90th	7	7	8	9	10	10	90th
85th	6	6	6	8	10	10	85th
80th	5	5	5	7	8	9	80th
75th	4	5	5	6	7	8	75th
70th	4	4	4	6	6	7	70th
65th	3	4	3	5	5	7	65th
60th	3	3	3	4	5	6	60th
55th	3	3	2	4	4	6	55th
50th	2	2	2	3	4	5	50th
45th	2	2	2	3	3	5	45th
40th	1	1	1	2	2	4	40th
35th	1	1	1	2	2	3	35th
30th	1	1	1	1	1	3	30th
25th	0	0	0	1	1	2	25th
20th	0	0	0	0	0	1	20th
15th	0	0	0	0	0	1	15th
10th	0	0	0	0	0	0	10th
5th	0	0	0	0	0	0	5th
0th	0	0	0	0	0	0	0th

TABLE 18

SIT-UPS FOR BOYS
(Percentile Scores Based on Classification Index)

Percentile	Oklahoma Norms						Percentile
	Classification Index						
	C	D	E	F	G	H	
100th	100	100	100	100	100	100	100th
95th	100	100	100	100	100	100	95th
90th	100	100	100	100	100	100	90th
85th	100	100	100	100	100	100	85th
80th	100	100	100	100	100	100	80th
75th	100	100	100	100	100	100	75th
70th	100	99	100	100	98	99	70th
65th	99	90	99	100	85	83	65th
60th	98	80	83	99	80	77	60th
55th	80	75	80	86	73	72	55th
50th	75	70	74	78	69	60	50th
45th	69	65	69	73	62	55	45th
40th	60	57	60	65	51	50	40th
35th	55	52	54	57	50	50	35th
30th	52	50	50	51	50	41	30th
25th	50	47	50	50	42	37	25th
20th	40	41	42	41	39	32	20th
15th	35	35	36	36	32	29	15th
10th	30	30	30	30	25	25	10th
5th	25	21	22	23	20	16	5th
0th	7	11	1	10	1	1	0th

TABLE 19

SIT-UPS FOR BOYS
(Percentile Scores Based on Classification Index)

Percentile	National Norms						Percentile
	Classification Index						
	C	D	E	F	G	H	
100th	100	100	100	100	100	100	100th
95th	100	100	100	100	100	100	95th
90th	100	100	100	100	100	100	90th
85th	100	100	100	100	100	100	85th
80th	90	100	100	100	100	100	80th
75th	75	99	99	100	100	100	75th
70th	61	78	81	99	99	100	70th
65th	55	70	73	85	95	99	65th
60th	50	60	64	70	76	90	60th
55th	50	52	57	60	70	78	55th
50th	47	50	50	55	65	70	50th
45th	40	50	50	50	56	64	45th
40th	36	41	49	49	51	60	40th
35th	32	40	41	42	50	52	35th
30th	30	35	39	39	47	50	30th
25th	28	30	35	35	40	43	25th
20th	25	28	30	30	35	39	20th
15th	22	23	25	26	30	34	15th
10th	17	20	22	22	25	30	10th
5th	12	14	16	17	14	23	5th
0th	0	0	0	0	0	5	0th

TABLE 20

SHUTTLE RUN FOR BOYS
(Percentile Scores Based on Classification Index)

Percentile	Oklahoma Norms						Percentile
	Classification Index						
	C	D	E	F	G	H	
100th	7.7	9.1	7.5	8.7	7.5	8.8	100th
95th	9.6	9.5	9.5	9.3	9.4	9.5	95th
90th	9.9	9.9	9.8	9.5	9.6	9.6	90th
85th	10.0	10.0	10.0	9.8	9.8	9.8	85th
80th	10.1	10.1	10.0	10.0	9.9	9.9	80th
75th	10.3	10.2	10.1	10.0	10.1	10.0	75th
70th	10.5	10.4	10.2	10.1	10.2	10.1	70th
65th	10.6	10.5	10.4	10.3	10.4	10.2	65th
60th	10.8	10.6	10.5	10.4	10.5	10.4	60th
55th	10.9	10.7	10.6	10.5	10.6	10.5	55th
50th	11.0	10.9	10.8	10.7	10.9	10.7	50th
45th	11.0	11.0	10.9	10.8	11.0	10.9	45th
40th	11.2	11.0	11.0	11.0	11.0	11.0	40th
35th	11.3	11.2	11.1	11.1	11.2	11.2	35th
30th	11.5	11.4	11.3	11.3	11.4	11.4	30th
25th	11.7	11.5	11.5	11.5	11.6	11.6	25th
20th	12.0	11.8	11.6	12.0	11.9	12.0	20th
15th	12.0	12.1	12.0	12.4	12.0	12.1	15th
10th	12.3	12.7	12.4	12.9	12.3	12.5	10th
5th	13.0	13.2	13.2	14.0	13.0	13.7	5th
0th	17.7	22.0	23.0	20.0	17.4	22.0	0th

TABLE 21

SHUTTLE RUN FOR BOYS
(Percentile Scores Based on Classification Index)

Percentile	National Norms						Percentile
	Classification Index						
	C	D	E	F	G	H	
100th	8.0	9.0	8.5	8.5	9.0	8.3	100th
95th	9.9	9.8	9.8	9.4	9.5	9.1	95th
90th	10.0	10.0	10.0	9.6	9.6	9.4	90th
85th	10.1	10.0	10.0	9.8	9.8	9.5	85th
80th	10.4	10.2	10.1	10.0	9.9	9.6	80th
75th	10.5	10.3	10.2	10.0	10.0	9.7	75th
70th	10.6	10.5	10.4	10.1	10.1	9.8	70th
65th	10.7	10.6	10.5	10.3	10.2	9.9	65th
60th	10.9	10.8	10.6	10.4	10.3	10.0	60th
55th	11.0	10.9	10.8	10.5	10.4	10.1	55th
50th	11.0	11.0	10.9	10.5	10.5	10.2	50th
45th	11.2	11.0	11.0	10.7	10.6	10.3	45th
40th	11.3	11.1	11.0	10.8	10.8	10.4	40th
35th	11.5	11.3	11.2	11.0	10.9	10.5	35th
30th	11.6	11.4	11.4	11.1	11.0	10.6	30th
25th	11.8	11.5	11.5	11.2	11.3	10.8	25th
20th	12.0	11.7	11.7	11.5	11.6	11.0	20th
15th	12.0	12.0	12.0	11.8	11.8	11.3	15th
10th	12.2	12.3	12.2	12.0	12.0	11.7	10th
5th	13.0	12.8	12.6	12.6	12.8	12.1	5th
0th	15.7	18.0	14.3	14.5	22.0	16.0	0th

TABLE 22

STANDING BROAD JUMP FOR BOYS
(Percentile Scores Based on Classification Index)

Percentile	Oklahoma Norms Classification Index						Percentile
	C	D	E	F	G	H	
100th	7' 4"	7' 6"	7' 8"	8' 5"	8' 5"	8' 5"	100th
95th	6' 7"	6' 9"	6'10"	7' 4"	7' 1"	7'10"	95th
90th	6' 5"	6' 6"	6' 8"	7' 1"	6'12"	7' 6"	90th
85th	6' 2"	6' 4"	6' 6"	6'10"	6'10"	7' 2"	85th
80th	6' 2"	6' 2"	6' 5"	6' 8"	6' 8"	7' 0"	80th
75th	6' 1"	6' 1"	6' 3"	6' 6"	6' 7"	6'10"	75th
70th	6' 0"	6' 0"	6' 2"	6' 4"	6' 5"	6' 8"	70th
65th	5'11"	5'10"	6' 0"	6' 3"	6' 3"	6' 6"	65th
60th	5'10"	5' 9"	6' 0"	6' 1"	6' 2"	6' 5"	60th
55th	5' 9"	5' 8"	5'11"	6' 0"	6' 1"	6' 3"	55th
50th	5' 7"	5' 7"	5' 9"	5'11"	6' 0"	6' 3"	50th
45th	5' 6"	5' 6"	5' 7"	5'10"	5'10"	6' 1"	45th
40th	5' 5"	5' 5"	5' 6"	5' 9"	5' 8"	5'11"	40th
35th	5' 4"	5' 4"	5' 5"	5' 8"	5' 7"	5'10"	35th
30th	5' 2"	5' 3"	5' 4"	5' 6"	5' 6"	5' 9"	30th
25th	5' 1"	5' 2"	5' 2"	5' 5"	5' 5"	5' 6"	25th
20th	5' 0"	5' 0"	5' 1"	5' 2"	5' 3"	5' 4"	20th
15th	4'10"	4'10"	4'11"	5' 0"	5' 0"	5' 1"	15th
10th	4' 8"	4' 7"	4' 9"	4' 9"	4'10"	4'11"	10th
5th	4' 6"	4' 4"	4' 6"	4' 6"	4' 2"	4' 6"	5th
0th	3'10"	3' 0"	3' 2"	3' 0"	3' 3"	3' 0"	0th

TABLE 23

STANDING BROAD JUMP FOR BOYS
(Percentile Scores Based on Classification Index)

Percentile	National Norms						Percentile
	Classification Index						
	C	D	E	F	G	H	
100th	7' 2"	10' 0"	7' 9"	8'10"	8' 8"	8' 9"	100th
95th	6' 4"	6' 7"	6' 9"	7' 2"	7' 6"	7'11"	95th
90th	6' 2"	6' 3"	6' 6"	6'11"	7' 2"	7' 7"	90th
85th	6' 0"	6' 2"	6' 4"	6' 9"	7' 0"	7' 6"	85th
80th	5' 9"	6' 0"	6' 2"	6' 8"	6'11"	7' 4"	80th
75th	5' 9"	5'11"	6' 0"	6' 6"	6' 9"	7' 3"	75th
70th	5' 7"	5'10"	6' 0"	6' 4"	6' 8"	7' 1"	70th
65th	5' 6"	5' 9"	5'10"	6' 3"	6' 5"	6'11"	65th
60th	5' 5"	5' 8"	5' 9"	6' 1"	6' 4"	6'10"	60th
55th	5' 4"	5' 6"	5' 8"	6' 0"	6' 2"	6' 8"	55th
50th	5' 3"	5' 6"	5' 6"	5'11"	6' 1"	6' 7"	50th
45th	5' 2"	5' 5"	5' 6"	5'10"	5'11"	6' 6"	45th
40th	5' 1"	5' 4"	5' 4"	5' 8"	5'10"	6' 5"	40th
35th	5' 0"	5' 2"	5' 3"	5' 6"	5' 9"	6' 3"	35th
30th	4'11"	5' 1"	5' 1"	5' 5"	5' 7"	6' 1"	30th
25th	4'10"	5' 0"	5' 0"	5' 3"	5' 5"	5'11"	25th
20th	4' 9"	4'10"	4'10"	5' 1"	5' 2"	5' 9"	20th
15th	4' 6"	4' 8"	4' 8"	4'11"	4'11"	5' 5"	15th
10th	4' 4"	4' 5"	4' 6"	4' 7"	4' 6"	5' 2"	10th
5th	4' 1"	4' 2"	4' 3"	4' 3"	4' 2"	4'10"	5th
0th	2' 2"	2'10"	2'10"	1' 8"	2' 2"	3' 2"	0th

TABLE 24

50-YARD DASH FOR BOYS
(Percentile Scores Based on Classification Index)

Percentile	Oklahoma Norms						Percentile
	Classification Index						
	C	D	E	F	G	H	
100th	5.9	6.1	5.6	5.5	5.5	5.6	100th
95th	6.8	6.9	6.9	6.4	6.4	6.2	95th
90th	6.9	7.0	7.0	6.7	6.6	6.4	90th
85th	7.0	7.2	7.1	6.9	6.8	6.5	85th
80th	7.2	7.2	7.2	7.0	6.9	6.6	80th
75th	7.3	7.3	7.2	7.0	7.0	6.8	75th
70th	7.4	7.4	7.3	7.1	7.0	6.8	70th
65th	7.5	7.5	7.4	7.2	7.1	6.9	65th
60th	7.6	7.6	7.5	7.2	7.2	7.0	60th
55th	7.7	7.7	7.5	7.3	7.4	7.2	55th
50th	7.8	7.8	7.6	7.4	7.4	7.2	50th
45th	7.8	7.9	7.8	7.5	7.6	7.4	45th
40th	7.9	7.9	7.8	7.6	7.7	7.5	40th
35th	8.0	8.0	7.9	7.7	7.9	7.6	35th
30th	8.1	8.1	8.0	7.9	8.1	7.8	30th
25th	8.2	8.2	8.1	8.0	8.3	7.9	25th
20th	8.4	8.4	8.2	8.1	8.5	8.0	20th
15th	8.7	8.5	8.4	8.5	8.5	8.3	15th
10th	8.9	8.9	8.7	9.0	8.9	8.5	10th
5th	9.1	9.5	9.0	9.6	9.3	8.9	5th
0th	11.0	12.0	11.8	12.0	12.0	15.4	0th

TABLE 25

50-YARD DASH FOR BOYS
(Percentile Scores Based on Classification Index)

Percentile	National Norms						Percentile
	Classification Index						
	C	D	E	F	G	H	
100th	6.0	6.0	5.8	5.9	5.8	5.8	100th
95th	7.0	6.8	6.7	6.5	6.4	6.1	95th
90th	7.1	7.0	6.9	6.7	6.6	6.3	90th
85th	7.2	7.0	7.0	6.9	6.7	6.4	85th
80th	7.4	7.2	7.1	7.0	6.8	6.5	80th
75th	7.5	7.3	7.2	7.0	6.9	6.6	75th
70th	7.5	7.4	7.3	7.1	7.0	6.6	70th
65th	7.7	7.5	7.4	7.2	7.0	6.7	65th
60th	7.8	7.6	7.5	7.3	7.1	6.8	60th
55th	7.9	7.7	7.5	7.4	7.2	6.9	55th
50th	7.9	7.8	7.7	7.5	7.2	7.0	50th
45th	8.0	7.9	7.8	7.5	7.4	7.0	45th
40th	8.0	8.0	7.9	7.6	7.5	7.0	40th
35th	8.2	8.0	8.0	7.8	7.6	7.1	35th
30th	8.4	8.2	8.1	8.0	7.7	7.2	30th
25th	8.5	8.3	8.2	8.1	7.9	7.4	25th
20th	8.7	8.4	8.4	8.2	8.0	7.5	20th
15th	8.9	8.6	8.5	8.3	8.3	7.8	15th
10th	9.1	9.0	9.0	8.6	8.6	8.0	10th
5th	9.5	9.4	9.2	9.0	9.2	8.5	5th
0th	10.8	10.9	12.0	11.6	12.0	9.6	0th

TABLE 26

SOFTBALL THROW FOR BOYS
(Percentile Scores Based on Classification Index)

Percentile	Oklahoma Norms Classification Index						Percentile
	C	D	E	F	G	H	
100th	168	196	250	227	240	290	100th
95th	156	159	174	180	192	202	95th
90th	147	150	162	168	183	195	90th
85th	135	139	155	162	169	189	85th
80th	131	136	147	156	165	183	80th
75th	126	134	144	153	162	178	75th
70th	123	132	138	150	155	174	70th
65th	120	128	135	147	152	170	65th
60th	120	125	132	141	148	165	60th
55th	120	122	129	138	143	162	55th
50th	116	118	126	135	140	154	50th
45th	113	115	124	131	137	150	45th
40th	111	113	120	125	135	144	40th
35th	106	108	118	121	130	141	35th
30th	102	105	115	119	127	137	30th
25th	100	100	112	117	122	133	25th
20th	97	96	106	111	118	130	20th
15th	96	90	99	104	108	124	15th
10th	92	87	92	92	96	109	10th
5th	80	73	70	72	75	70	5th
0th	20	20	22	40	39	39	0th

TABLE 27

SOFTBALL THROW FOR BOYS
(Percentile Scores Based on Classification Index)

Percentile	National Norms						Percentile
	Classification Index						
	C	D	E	F	G	H	
100th	245	195	239	228	228	242	100th
95th	151	160	169	188	198	219	95th
90th	142	150	159	180	190	209	90th
85th	136	144	152	172	181	200	85th
80th	131	140	148	167	175	195	80th
75th	128	135	145	162	170	190	75th
70th	124	132	141	158	166	188	70th
65th	121	128	138	153	165	183	65th
60th	119	125	135	150	161	179	60th
55th	115	121	131	145	158	176	55th
50th	112	120	127	141	153	171	50th
45th	110	116	125	138	150	166	45th
40th	108	114	121	135	146	162	40th
35th	104	110	118	132	141	159	35th
30th	100	107	115	125	139	154	30th
25th	97	104	113	121	131	149	25th
20th	93	100	108	118	128	142	20th
15th	89	93	104	110	124	138	15th
10th	84	87	95	102	115	127	10th
5th	75	78	86	89	102	110	5th
-th	30	31	55	25	25	44	0th

TABLE 28

600-YARD RUN-WALK FOR BOYS
(Percentile Scores Based on Classification Index)

Percentile	Oklahoma Norms Classification Index C	D	E	F	G	H	Percentile
100th	1'36"	1'28"	1'27"	1'22"	1'15"	1'32"	100th
95th	1'51"	1'49"	1'46"	1'44"	1'46"	1'40"	95th
90th	1'58"	1'54"	1'52"	1'48"	1'49"	1'45"	90th
85th	2' 0"	1'59"	1'57"	1'52"	1'52"	1'48"	85th
80th	2' 2"	2' 2"	1'59"	1'55"	1'55"	1'51"	80th
75th	2' 5"	2' 4"	2' 1"	1'59"	1'57"	1'56"	75th
70th	2' 7"	2' 5"	2' 3"	2' 1"	2' 0"	1'59"	70th
65th	2' 9"	2' 8"	2' 5"	2' 3"	2' 2"	2' 1"	65th
60th	2'11"	2'10"	2' 8"	2' 6"	2' 5"	2' 4"	60th
55th	2'13"	2'12"	2'10"	2' 8"	2' 7"	2' 6"	55th
50th	2'14"	2'14"	2'12"	2'10"	2'10"	2' 9"	50th
45th	2'15"	2'16"	2'14"	2'13"	2'13"	2'11"	45th
40th	2'16"	2'18"	2'16"	2'15"	2'18"	2'14"	40th
35th	2'18"	2'20"	2'19"	2'17"	2'20"	2'16"	35th
30th	2'20"	2'23"	2'22"	2'19"	2'15"	2'19"	30th
25th	2'23"	2'26"	2'25"	2'24"	2'29"	2'25"	25th
20th	2'26"	2'30"	2'29"	2'29"	2'35"	2'32"	20th
15th	2'30"	2'37"	2'32"	2'37"	2'43"	2'39"	15th
10th	2'39"	2'45"	2'43"	2'49"	2'51"	2'50"	10th
5th	2'46"	3' 0"	2'59"	3' 0"	3'12"	3'12"	5th
0th	3'56"	3'57"	4'18"	7'20"	4' 5"	6'13"	0th

TABLE 29

600-YARD RUN-WALK FOR BOYS
(Percentile Scores Based on Classification Index)

Percentile	National Norms						Percentile
	Classification Index						
	C	D	E	F	G	H	
100th	1'32"	1'29"	1'34"	1'35"	1'30"	1'25"	100th
95th	1'56"	1'52"	1'51"	1'48"	1'44"	1'38"	95th
90th	2' 2"	1'59"	1'57"	1'51"	1'46"	1'42"	90th
85th	2' 6"	2' 3"	2' 0"	1'54"	1'50"	1'44"	85th
80th	2' 9"	2' 6"	2' 2"	1'57"	1'52"	1'46"	80th
75th	2'11"	2'10"	2' 5"	1'59"	1'54"	1'48"	75th
70th	2'13"	2'12"	2' 8"	2' 2"	1'56"	1'51"	70th
65th	2'16"	2'14"	2'11"	2' 4"	1'59"	1'52"	65th
60th	2'19"	2'16"	2'15"	2' 5"	2' 0"	1'55"	60th
55th	2'21"	2'18"	2'16"	2' 8"	2' 3"	1'56"	55th
50th	2'24"	2'22"	2'19"	2'10"	2' 5"	1'59"	50th
45th	2'28"	2'24"	2'22"	2'12"	2' 9"	2' 1"	45th
40th	2'31"	2'27"	2'26"	2'15"	2'11"	2' 4"	40th
35th	2'34"	2'30"	2'29"	2'19"	2'14"	2' 8"	35th
30th	2'38"	2'35"	2'32"	2'23"	2'18"	2'12"	30th
25th	2'41"	2'40"	2'36"	2'27"	2'24"	2'16"	25th
20th	2'45"	2'46"	2'43"	2'32"	2'30"	2'23"	20th
15th	2'50"	2;55"	2'53"	2'40"	2'38"	2'29"	15th
10th	3' 2"	3' 7"	3' 3"	2'55"	2'56"	2'41"	10th
5th	3'14"	3'30"	3'21"	3'21"	3'15"	3'11"	5th
0th	4'34"	5' 6"	5' 8"	5' 0"	4'25"	5'14"	0th

TABLE 30

FLEXED ARM HANG FOR GIRLS
(Percentile Scores Based on Classification Index)

Percentile	Oklahoma Norms Classification Index C	D	E	F	G	H	Percentile
100th	39	46	90	50	27	20	100th
95th	32	29	22	20	20	20	95th
90th	27	25	20	20	20	20	90th
85th	21	20	20	20	19	18	85th
80th	20	20	20	19	15	13	80th
75th	20	20	19	18	12	11	75th
70th	20	20	17	16	10	8	70th
65th	20	18	15	14	9	7	65th
60th	20	16	13	12	9	5	60th
55th	18	14	12	10	7	4	55th
50th	16	13	11	9	5	3	50th
45th	12	12	9	8	4	3	45th
40th	10	10	8	7	3	2	40th
35th	10	10	7	6	3	2	35th
30th	8	8	6	5	2	2	30th
25th	7	7	5	4	1	1	25th
20th	6	6	4	3	1	1	20th
15th	5	4	3	2	1	0	15th
10th	4	2	2	1	0	0	10th
5th	2	1	0	0	0	0	5th
0th	0	0	0	0	0	0	0th

TABLE 31

FLEXED ARM HANG FOR GIRLS
(Percentile Scores Based on Classification Index)

Percentile	National Norms Classification Index C	D	E	F	G	H	Percentile
100th	80	64	61	61	64	40	100th
95th	35	28	31	30	17	17	95th
90th	27	22	23	21	13	14	90th
85th	23	18	20	18	11	11	85th
80th	20	15	17	14	11	9	80th
75th	18	13	14	13	9	7	75th
70th	16	11	12	11	8	6	70th
65th	14	10	11	10	7	5	65th
60th	12	9	9	9	6	4	60th
55th	10	8	8	8	5	2	55th
50th	9	7	7	7	4	2	50th
45th	8	6	6	6	3	2	45th
40th	7	6	5	5	2	1	40th
35th	6	5	4	4	2	1	35th
30th	5	4	3	3	1	1	30th
25th	4	3	3	2	0	0	25th
20th	3	2	2	1	0	0	20th
15th	2	1	1	0	0	0	15th
10th	1	0	0	0	0	0	10th
5th	0	0	0	0	0	0	5th
0th	0	0	0	0	0	0	0th

TABLE 32

SIT-UPS FOR GIRLS
(Percentile Scores Based on Classification Index)

Percentile	Oklahoma Norms						Percentile
	Classification Index						
	C	D	E	F	G	H	
100th	50	50	50	50	50	50	100th
95th	50	50	50	50	50	50	95th
90th	50	50	50	50	50	50	90th
85th	50	50	50	50	50	50	85th
80th	50	50	50	50	50	50	80th
75th	50	50	50	50	50	50	75th
70th	50	50	50	50	50	47	70th
65th	50	50	50	50	50	32	65th
60th	50	50	50	50	50	32	60th
55th	50	50	50	43	50	30	55th
50th	50	47	46	38	46	26	50th
45th	49	42	40	33	35	24	45th
40th	46	36	35	30	31	22	40th
35th	40	32	30	28	27	20	35th
30th	34	30	28	24	25	20	30th
25th	30	29	25	20	22	17	25th
20th	25	26	22	19	20	15	20th
15th	22	22	19	17	17	12	15th
10th	19	20	16	14	15	11	10th
5th	17	15	10	10	15	9	5th
0th	10	2	1	1	6	2	0th

TABLE 33

SIT-UPS FOR GIRLS
(Percentile Scores Based on Classification Index)

Percentile	National Norms						Percentile
	Classification Index						
	C	D	E	F	G	H	
100th	50	50	50	50	50	50	100th
95th	50	50	50	50	50	50	95th
90th	50	50	50	50	50	50	90th
85th	50	50	50	50	49	48	85th
80th	50	50	50	50	43	43	80th
75th	50	50	50	49	38	39	75th
70th	50	47	47	44	35	35	70th
65th	50	40	40	40	32	34	65th
60th	45	37	37	36	30	30	60th
55th	40	33	34	34	29	29	55th
50th	35	31	31	31	25	27	50th
45th	31	30	29	30	25	25	45th
40th	30	27	26	27	22	23	40th
35th	25	25	24	25	20	21	35th
30th	23	22	21	23	20	20	30th
25th	20	20	20	21	17	18	25th
20th	18	18	19	20	15	15	20th
15th	16	16	15	16	13	14	15th
10th	11	13	13	13	10	12	10th
5th	8	10	9	10	8	9	5th
0th	0	0	0	0	1	3	0th

TABLE 34

SHUTTLE RUN FOR GIRLS
(Percentile Scores Based on Classification Index)

Percentile	Oklahoma Norms						Percentile
	Classification Index						
	C	D	E	F	G	H	
100th	9.6	8.6	8.7	8.8	9.8	8.2	100th
95th	10.0	10.0	9.9	10.0	10.0	10.1	95th
90th	10.2	10.1	10.2	10.1	10.2	10.3	90th
85th	10.4	10.3	10.4	10.3	10.4	10.6	85th
80th	10.6	10.4	10.5	10.4	10.5	11.0	80th
75th	10.8	10.5	10.6	10.5	10.6	11.0	75th
70th	10.9	10.7	10.8	10.7	10.7	11.1	70th
65th	11.0	10.9	10.9	10.8	10.9	11.2	65th
60th	11.1	11.0	11.0	11.0	11.0	11.4	60th
55th	11.2	11.0	11.1	11.1	11.2	11.4	55th
50th	11.4	11.1	11.2	11.2	11.3	11.5	50th
45th	11.5	11.2	11.4	11.4	11.4	11.9	45th
40th	11.6	11.4	11.5	11.5	11.5	12.0	40th
35th	11.8	11.7	11.6	11.8	11.8	12.1	35th
30th	12.0	11.8	11.8	12.0	11.9	12.4	30th
25th	12.1	12.0	12.0	12.2	12.1	12.5	25th
20th	12.2	12.1	12.2	12.6	12.3	12.8	20th
15th	12.5	12.4	12.5	13.0	12.8	13.7	15th
10th	13.0	12.8	13.0	13.5	13.5	14.0	10th
5th	13.5	13.4	13.5	15.1	15.0	14.5	5th
0th	20.5	26.5	18.4	27.0	20.1	18.9	0th

TABLE 35

SHUTTLE RUN FOR GIRLS
(Percentile Scores Based on Classification Index)

Percentile	National Norms						Percentile
	Classification Index						
	C	D	E	F	G	H	
100th	9.0	8.9	9.0	9.0	8.3	9.3	100th
95th	10.0	9.9	10.0	10.0	10.1	10.1	95th
90th	10.2	10.2	10.2	10.2	10.3	10.5	90th
85th	10.5	10.5	10.5	10.5	10.5	10.6	85th
80th	10.8	10.8	10.6	10.5	10.6	10.8	80th
75th	11.0	11.0	10.8	10.7	10.8	10.9	75th
70th	11.0	11.0	11.0	10.9	11.0	11.0	70th
65th	11.2	11.1	11.0	11.0	11.0	11.1	65th
60th	11.4	11.3	11.1	11.0	11.2	11.3	60th
55th	11.5	11.4	11.3	11.2	11.3	11.5	55th
50th	11.5	11.6	11.5	11.4	11.5	11.6	50th
45th	11.7	11.8	11.7	11.5	11.7	11.8	45th
40th	11.9	12.0	12.0	11.7	11.8	12.0	40th
35th	12.0	12.0	12.0	11.9	12.0	12.2	35th
30th	12.0	12.1	12.1	12.0	12.0	12.4	30th
25th	12.2	12.3	12.3	12.2	12.3	12.5	25th
20th	12.5	12.6	12.5	12.5	12.5	13.0	20th
15th	12.7	12.9	12.9	13.0	12.9	13.0	15th
10th	13.0	13.3	13.2	13.5	13.3	13.5	10th
5th	13.8	14.0	14.0	14.0	14.0	14.0	5th
0th	17.0	16.0	17.6	18.5	17.0	17.3	0th

TABLE 36

STANDING BROAD JUMP FOR GIRLS
(Percentile Scores Based on Classification Index)

Percentile	Oklahoma Norms						Percentile
	Classification Index						
	C	D	E	F	G	H	
100th	7' 1"	8' 6"	8' 0"	7' 4"	6' 8"	6' 6"	100th
95th	6' 4"	6' 6"	6' 5"	6' 6"	6' 6"	6' 5"	95th
90th	6' 0"	6' 1"	6' 3"	6' 4"	6' 2"	6' 0"	90th
85th	5' 8"	6' 0"	6' 1"	6' 1"	6' 1"	5' 9"	85th
80th	5' 7"	5'11"	5'11"	6' 0"	6' 0"	5' 6"	80th
75th	5' 6"	5' 9"	5'10"	5'11"	5'11"	5' 5"	75th
70th	5' 5"	5' 8"	5' 8"	5' 9"	5'10"	5' 5"	70th
65th	5' 4"	5' 6"	5' 7"	5' 8"	5' 7"	5' 3"	65th
60th	5' 3"	5' 4"	5' 6"	5' 6"	5' 6"	5' 2"	60th
55th	5' 2"	5' 4"	5' 5"	5' 4"	5' 4"	5' 2"	55th
50th	5' 1"	5' 2"	5' 4"	5' 3"	5' 4"	5' 0"	50th
45th	5' 0"	5' 1"	5' 3"	5' 2"	5' 3"	4'10"	45th
40th	4'11"	5' 0"	5' 2"	5' 1"	5' 1"	4' 9"	40th
35th	4' 9"	5' 0"	5' 1"	5' 0"	5' 0"	4' 8"	35th
30th	4' 7"	5' 0"	5' 0"	4'10"	4'11"	4' 6"	30th
25th	4' 6"	4'11"	4'11"	4' 9"	4' 9"	4' 4"	25th
20th	4' 6"	4' 9"	4'10"	4' 6"	4' 6"	4' 2"	20th
15th	4' 5"	4' 7"	4' 7"	4' 4"	4' 5"	4' 1"	15th
10th	4' 3"	4' 6"	4' 5"	4' 2"	4' 3"	4' 0"	10th
5th	4' 1"	4' 1"	4' 0"	4' 0"	4' 0"	3' 9"	5th
0th	2' 5"	3' 6"	2'11"	2' 9"	3' 0"	3' 0"	0th

TABLE 37

STANDING BROAD JUMP FOR GIRLS
(Percentile Scores Based on Classification Index)

Percentile	National Norms						Percentile
	Classification Index						
	C	D	E	F	G	H	
100th	7'10"	7' 0"	7'10"	8' 2"	7' 4"	7' 4"	100th
95th	6' 2"	6' 1"	6' 4"	6' 3"	6' 3"	6' 5"	95th
90th	5'11"	5'11"	6' 0"	6' 1"	6' 0"	6' 2"	90th
85th	5' 8"	5' 8"	5'10"	5'11"	5' 9"	5'11"	85th
80th	5' 7'	5' 7"	5' 8"	5' 9"	5' 7"	5' 8"	80th
75th	5' 5"	5' 5"	5' 7"	5' 7"	5' 6"	5' 7"	75th
70th	5' 4"	5' 4"	5' 6"	5' 6"	5' 5"	5' 6"	70th
65th	5' 2"	5' 3"	5' 4"	5' 4"	5' 4"	5' 4"	65th
60th	5' 1"	5' 2"	5' 2"	5' 3"	5' 3"	5' 3"	60th
55th	5' 0"	5' 1"	5' 1"	5' 2"	5' 2"	5' 1"	55th
50th	4'11"	5' 0"	5' 0"	5' 1"	5' 0"	5' 0"	50th
45th	4'10"	4'11"	4'11"	5' 0"	5' 0"	4' 9"	45th
40th	4' 9"	4' 9"	4'10"	4'11"	4'10"	4' 9"	40th
35th	4' 8"	4' 8"	4' 8"	4' 9"	4' 9"	4' 8"	35th
30th	4' 6"	4' 7"	4' 7"	4' 7"	4' 7"	4' 6"	30th
25th	4' 5"	4' 5"	4' 6"	4' 6"	4' 6"	4' 5"	25th
20th	4' 3"	4' 4"	4' 4"	4' 4"	4' 5"	4' 4"	20th
15th	4' 2"	4' 2"	4' 2"	4' 2"	4' 2"	4' 2"	15th
10th	4' 0"	4' 0"	4' 0"	4' 0"	4' 0"	4' 0"	10th
5th	3' 7"	3'11"	3' 8"	3' 9"	3' 9"	3' 7"	5th
0th	3' 0"	2'11"	2'11"	2'11"	3' 1"	2'11"	0th

TABLE 38

50-YARD DASH FOR GIRLS
(Percentile Scores Based on Classification Index)

Percentile	Oklahoma Norms						Percentile
	Classification Index						
	C	D	E	F	G	H	
100th	6.7	6.7	6.3	6.0	6.8	6.8	100th
95th	7.1	7.0	7.0	6.9	7.0	6.8	95th
90th	7.3	7.2	7.1	7.0	7.0	7.5	90th
85th	7.4	7.3	7.3	7.2	7.2	7.5	85th
80th	7.5	7.4	7.4	7.3	7.4	7.6	80th
75th	7.6	7.5	7.5	7.4	7.4	7.8	75th
70th	7.8	7.6	7.6	7.6	7.5	7.9	70th
65th	7.9	7.8	7.7	7.7	7.6	8.0	65th
60th	8.0	7.9	7.8	7.8	7.7	8.0	60th
55th	8.1	8.0	7.9	7.9	7.9	8.0	55th
50th	8.2	8.1	8.0	8.0	8.0	8.1	50th
45th	8.4	8.2	8.1	8.1	8.0	8.4	45th
40th	8.5	8.4	8.2	8.3	8.1	8.4	40th
35th	8.6	8.5	8.3	8.4	8.3	8.5	35th
30th	8.8	8.8	8.4	8.5	8.7	8.8	30th
25th	8.9	8.8	8.5	8.7	8.9	9.0	25th
20th	9.0	9.0	8.7	8.9	9.0	9.2	20th
15th	9.0	9.1	9.0	9.0	9.2	9.5	15th
10th	9.3	9.3	9.2	9.2	9.8	10.0	10th
5th	10.0	9.9	9.5	9.5	10.2	10.2	5th
0th	11.3	13.0	11.2	11.6	12.1	13.0	0th

TABLE 39

50-YARD DASH FOR GIRLS
(Percentile Scores Based on Classification Index)

Percentile	National Norms						Percentile
	Classification Index						
	C	D	E	F	G	H	
100th	6.0	6.0	6.0	5.9	6.0	6.0	100th
95th	7.0	7.2	7.0	7.0	7.3	7.2	95th
90th	7.3	7.4	7.2	7.2	7.5	7.4	90th
85th	7.5	7.6	7.5	7.4	7.6	7.5	85th
80th	7.7	7.7	7.6	7.5	7.8	7.6	80th
75th	7.8	7.9	7.7	7.6	7.8	7.8	75th
70th	7.9	7.9	7.8	7.8	7.9	7.9	70th
65th	8.0	8.0	7.9	7.9	8.0	8.0	65th
60th	8.0	8.0	8.0	7.9	8.0	8.1	60th
55th	8.2	8.1	8.1	8.0	8.1	8.2	55th
50th	8.3	8.2	8.2	8.1	8.3	8.2	50th
45th	8.4	8.3	8.3	8.3	8.4	8.4	45th
40th	8.5	8.4	8.4	8.4	8.4	8.5	40th
35th	8.6	8.5	8.5	8.5	8.6	8.6	35th
30th	8.8	8.7	8.6	8.7	8.8	8.8	30th
25th	9.0	8.9	8.8	8.9	9.0	9.0	25th
20th	9.1	9.0	9.0	9.0	9.1	9.2	20th
15th	9.2	9.1	9.2	9.4	9.3	9.4	15th
10th	9.5	9.5	9.5	9.7	9.7	9.6	10th
5th	9.8	10.0	10.0	10.5	10.4	10.0	5th
0th	11.3	12.0	14.0	15.7	13.0	11.0	0th

TABLE 40

SOFTBALL THROW FOR GIRLS
(Percentile Scores Based on Classification Index)

Percentile	Oklahoma Norms						Percentile
	Classification Index						
	C	D	E	F	G	H	
100th	108	151	150	210	166	176	100th
95th	99	117	113	119	123	162	95th
90th	92	100	103	105	118	130	90th
85th	86	95	99	99	110	116	85th
80th	84	89	95	94	102	105	80th
75th	81	83	90	90	99	100	75th
70th	75	79	86	88	96	97	70th
65th	70	76	84	85	92	94	65th
60th	68	75	79	83	87	92	60th
55th	64	72	75	80	85	88	55th
50th	62	69	74	77	82	85	50th
45th	60	66	72	73	75	82	45th
40th	58	63	68	70	72	77	40th
35th	57	61	65	66	71	70	35th
30th	53	59	62	64	67	68	30th
25th	51	57	60	60	65	64	25th
20th	49	55	57	57	60	57	20th
15th	45	48	52	54	56	51	15th
10th	43	45	48	50	53	48	10th
5th	35	40	41	41	42	43	5th
0th	15	15	12	15	24	30	0th

TABLE 41

SOFTBALL THROW FOR GIRLS
(Percentile Scores Based on Classification Index)

Percentile	National Norms						Percentile
	Classification Index						
	C	D	E	F	G	H	
100th	133	135	141	159	143	168	100th
95th	90	101	106	111	111	120	95th
90th	85	93	99	102	102	112	90th
85th	80	87	92	97	100	104	85th
80th	76	81	87	92	92	102	80th
75th	73	78	84	88	90	99	75th
70th	71	74	80	85	87	92	70th
65th	68	71	76	81	85	85	65th
60th	65	69	74	78	81	82	60th
55th	61	65	70	75	78	80	55th
50th	59	63	67	72	75	77	50th
45th	57	60	64	70	73	75	45th
40th	54	58	61	67	70	72	40th
35th	52	57	60	65	67	70	35th
30th	49	54	56	61	65	66	30th
25th	46	50	53	58	60	63	25th
20th	44	46	50	54	58	60	20th
15th	40	44	47	50	53	57	15th
10th	37	40	43	46	48	51	10th
5th	32	35	39	38	44	44	5th
0th	18	18	21	20	20	21	0th

TABLE 42

600-YARD RUN-WALK FOR GIRLS
(Percentile Scores Based on Classification Index)

Percentile	Oklahoma Norms						Percentile
	Classification Index						
	C	D	E	F	G	H	
100th	2' 2"	1'54"	2' 0"	1'51"	1'53"	2'12"	100th
95th	2' 2"	2' 5"	2' 8"	2'10"	2'10"	2'13"	95th
90th	2'13"	2'12"	2'14"	2'15"	2'17"	2'16"	90th
85th	2'14"	2'18"	2'18"	2'21"	2'20"	2'21"	85th
80th	2'19"	2'22"	2'22"	2'24"	2'25"	2'28"	80th
75th	2'24"	2'25"	2'25"	2'25"	2'29"	2'34"	75th
70th	2'26"	2'27"	2'27"	2'30"	2'32"	2'38"	70th
65th	2'29"	2'31"	2'30"	2'35"	2'35"	2'40"	65th
60th	2'32"	2'33"	2'32"	2'38"	2'38"	2'48"	60th
55th	2'35"	2'35"	2'35"	2'40"	2'40"	2'54"	55th
50th	2'37"	2'40"	2'38"	2'43"	2'41"	2'55"	50th
45th	2'40"	2'43"	2'42"	2'47"	2'44"	3' 0"	45th
40th	2'48"	2'45"	2'44"	2'52"	2'50"	3' 4"	40th
35th	2'49"	2'49"	2'50"	2'59"	2'58"	3'10"	35th
30th	2'58"	2'51"	2'55"	3' 2"	3' 2"	3'12"	30th
25th	3' 3"	2'56"	2'59"	3' 6"	3'11"	3'16"	25th
20th	3' 7"	3' 1"	3' 3"	3'14"	3'22"	3'20"	20th
15th	3'10"	3'13"	3'13"	3'19"	3'40"	3'30"	15th
10th	3'20"	3'20"	3'20"	3'33"	3'44"	3'47"	10th
5th	3'30"	3'33"	3'39"	3'57"	4' 0"	3'54"	5th
0th	4'14"	4'51"	5'14"	4'56"	5' 3"	4'56"	0th

TABLE 43

600-YARD RUN-WALK FOR GIRLS
(Percentile Scores Based on Classification Index)

Percentile	National Norms						Percentile
	Classification Index						
	C	D	E	F	G	H	
100th	1'46"	1'39"	1'40"	1'50"	1'55"	2' 4"	100th
95th	2'11"	2'10"	2'11"	2'13"	2'13"	2'19"	95th
90th	2'17"	2'17"	2'19"	2'18"	2'22"	2'25"	90th
85th	2'22"	2'23"	2'24"	2'25"	2'25"	2'30"	85th
80th	2'26"	2'26"	2'27"	2'29"	2'30"	2'33"	80th
75th	2'29"	2'30"	2'32"	2'33"	2'35"	2'38"	75th
70th	2'32"	2'33"	2'36"	2'37"	2'40"	2'41"	70th
65th	2'36"	2'37"	2'40"	2'40"	2'44"	2'46"	65th
60th	2'39"	2'40"	2'43"	2'43"	2'47"	2'50"	60th
55th	2'43"	2'45"	2'46"	2'47"	2'50"	2'55"	55th
50th	2'45"	2'48"	2'50"	2'50"	2'54"	2'59"	50th
45th	2'49"	2'51"	2'55"	2'55"	2'59"	3' 4"	45th
40th	2'53"	2'55"	3' 0"	2'59"	3' 3"	3'10"	40th
35th	2'59"	3' 0"	3' 2"	3' 2"	3' 6"	3'13"	35th
30th	3' 3"	3' 7"	3' 6"	3' 9"	3'12"	3'16"	30th
25th	3'11"	3'11"	3'12"	3'13"	3'17"	3'21"	25th
20th	3'18"	3'16"	3'17"	3'18"	3'25"	3'29"	20th
15th	3'25"	3'24"	3'25"	3'26"	3'43"	3'39"	15th
10th	3'40"	3'38"	3'45"	3'40"	3'52"	3'48"	10th
5th	3'59"	3'59"	4' 4"	4' 0"	4' 7"	4'11"	5th
0th	5' 0"	4'53"	5'10"	5'10"	5'50"	5'30"	0th

APPENDIX B

INITIAL LETTER TO SCHOOL PRINCIPALS

PHYSICAL EDUCATION

THE UNIVERSITY OF OKLAHOMA
NORMAN, OKLAHOMA 73069

The purpose of this letter is to solicit your cooperation in a study being conducted this year under the sponsorship of the U.S. Office of Education and which is supported by the Oklahoma Association for Health, Physical Education and Recreation and the State Director of Safety, Health, Physical and Driver Education.

This study is designed to measure the fitness of boys and girls in grades 7 and 8 throughout the state and will make use of the American Association for Health, Physical Education and Recreation's "Youth Fitness Test" which is a commonly used test across the nation. There is no special equipment needed and, if necessary, it would be possible to furnish the personnel needed for the administration of the test.

The test results will be recorded anonymously so there is no possibility of embarrassment to individual students. It is our desire to have every 7th and 8th grade child in the state tested so as to secure the most valid data possible.

The ultimate success of this study depends upon your school's cooperation and I sincerely hope that you will be willing to participate in this study. I would greatly appreciate your immediate response on the enclosed postcard regardless of your decision. Thank you for your time and I hope that you will choose to have your school be a part of this study.

Sincerely,

Jerome C. Weber

Jerome C. Weber, Ph.D.
Associate Professor

JCW/ha

Enclosure

APPENDIX C

SELF-ADDRESSED POST CARD REQUESTING PARTICIPATION INFORMATION

Name of School ______________________________

Address ______________________________

Will your school participate in this study? __________

If yes, with whom should we communicate in regard to this study from now on?
Name ______________________________

Approximate number of 7th and 8th grade boys and girls at your school: ______________________________

Will you want help in the administration of the tests?

YES (circle) NO

APPENDIX D

TEST ADMINISTRATION INSTRUCTION

COLLECTING TEST DATA

The collection of test data on the enclosed data sheets should be done by your students according to your directions. There should be no confusion if these directions are followed. No special writing instrument is required or preferred. Please ask your students to be sure to answer in the proper place and to be as neat as possible.

Question	Directions
1-3	The student should PRINT the appropriate information with last name written first. e.g. 1. Name Smith, John 2. School Carver Junior High School 3. City Tulsa
4-5	The student should CHECK the appropriate box. e.g. 4. Sex [✓ M] F 5. Grade 7 [✓ 8]
6-8	The student should CHECK the appropriate line corresponding to his age, height, and weight. e.g. 6. AGE yr. mo. to yr. mo. ✓ 13 0 -- 13 5 7. HEIGHT ft. in. to ft. in. ✓ 5 2 -- 5 3 8. WEIGHT lbs. to lbs. ✓ 106 -- 110
9-11	The student should CHECK the appropriate answer. Questions 9 and 10 refer to competition or practice up to the time the test is taken. For example, a student planning to compete in interscholastic baseball in the spring should answer NO to question 10. Question 11 should be answered YES only if the entire test has been previously taken. e.g. 9. Are you competing in intramural sports this year? [✓ Yes] No 10. Are you competing in interscholastic sports this year? Yes [✓ No] 11. Have you ever taken this test before? Yes [✓ No]

12-17 The student should FILL IN the appropriate number from the following coded responses to each question.

12. Type of intramural sports you compete in this year. 2
    0. none
    1. individual (e.g., wrestling, track)
    2. team (e.g. football, basketball)
    3. both

13. Type of interscholastic sports you compete in this year. 0
    0. none
    1. individual (e.g. wrestling, track)
    2. team (e.g. football, basketball)
    3. both

14. Population of city or town 3
    1. 1,000 or less
    2. 1,001 to 5,000
    3. 5,001 to 10,000
    4. 10,001 to 25,000
    5. 25,001 to 100,000
    6. 100,001 or more

15. Size of school 4
    The following categories are based on the total "average daily enrollment" of all students in your school.)
    1. 100 or fewer
    2. 101 to 350
    3. 351 to 750
    4. 751 or more

16. Type of school 3
    1. includes grades 1 through 12
    2. includes grades 7 and 8 only
    3. includes grades 7 through 9
    4. includes grades 7 through 12
    5. other

17. Number of years of physical education prior to this year 1
    (Write the appropriate number of years of physical education taken before this year.)

18-27 The student should FILL IN his score in each of the test items. Please be sure that each space is filled and that the appropriate categories are used for scoring. If a test item has not been taken, instruct the student to leave the appropriate spaces empty. A SCORE OF ZERO IS NOT TO BE USED IF A TEST ITEM HAS NOT BEEN TAKEN.

18. PULL UP (boys-number e.g. 6 pullups) 0 6

18. FLEXED ARM SWING (girls-seconds e.g. 25 seconds) 2 5

19. SIT UPS (number e.g. 22 situps) 0 2 2

20. SHUTTLE RUN (nearest tenth of a second e.g. 10.1 seconds) 1 0 . 1

21. STANDING BROAD JUMP (feet and inches e.g. 5 feet 3 inches) 5 0 3

22. 50 YARD DASH (nearest tenth of a second e.g. 8.6 seconds) 0 8 . 6

23. SOFT BALL THROW (nearest foot e.g. 95 feet) 0 9 5

24. 600 YARD RUN WALK (minutes and seconds e.g. 2 minutes 9 seconds) 2 : 0 9

I hope that the above directions and the enclosed instructions for the administration of the test items are clear. If you desire any further aid in either administering or recording the test items, please notify me as soon as possible.

When the test items are ready to be returned please have them separated into 4 groups as follows: 7th grade boys, 7th grade girls, 8th grade boys, 8th grade girls. Please return them directly to:

Dr. Jerome Weber
Department of Physical Education
University of Oklahoma
Norman, Oklahoma 73069

It would be greatly appreciated if these forms could be returned by the end of January, 1969, at the latest so that data processing can be started at that time. We will make our results available to you as soon as possible so that this research will be of benefit to you in evaluating your student's performance on these items.

Please accept my deepest thanks for making this work possible and for making a real contribution to Oklahoma's physical education program.

Sincerely,

Jerry Weber

Jerry Weber

TEST ADMINISTRATION

Pull-up - Boys

Equipment. A metal or wooden bar approximately $1\frac{1}{2}$ inches in diameter is preferred. A doorway gym bar can be used and, if no regular equipment is available, a piece of pipe or even the rungs of a ladder can serve the purpose.

Description. The bar should be high enough so that the pupil can hang with his arms and legs fully extended and his feet free of the floor. Use the overhand grasp (palms away from face). After assuming the hanging position, the pupil raises his body by his arms until his chin can be placed over the bar and then lowers his body to a full hang as in the starting position. The exercise is repeated as many times as possible.

Rules. 1. Allow one trial unless it is obvious that the pupil had not had a fair chance.

2. The body must not swing during the execution of the movement. The pull must in no way be a snap movement. If the pupil starts swinging, check this by holding your extended arm across the front of the thighs.

3. The knees must not be raised and kicking of the legs is not permitted.

Scoring. Record the number of completed pull-ups to the nearest whole number.

Flexed Arm Hang - Girls

Equipment. A horizontal bar approximately $1\frac{1}{2}$ inches in diameter is preferred. A doorway gym bar can be used and if no regular equipment is available, a piece of pipe can also serve the purpose. A stop watch is needed.

Description. Adjust the height of the bar so it is approximately equal to the subject's standing height. Use an overhand grasp (palms away from face). With the assistance of two spotters, one in front and one in back or subject, the subject raises her body off the floor to a position where the chin is above the bar, the elbows are flexed and the chest is close to the bar. The subject holds this position against a time criterion as long as possible.

Rules. 1. The stop watch is started as soon as the subject takes the starting position.

2. The watch is stopped when: (a) subject's chin touches the bar, (b) subject's head tilts backwards to keep chin above the bar, (c) subject's chin falls below the level of the bar.

Scoring. Record in seconds to the nearest second the length of time the subject holds the starting position.

Sit-up - Boys and Girls

Equipment. Mat or floor.

Description. The pupil lies on his back, either on the floor or on a mat, with legs extended and feet about two feet apart. His hands are placed on the back of the neck with the fingers interlaced. Elbows are retracted. A partner holds the ankles down, the heels being in contact with the mat or floor at all times.

The pupil sits up, turning the trunk to the left and touching the right elbow to the left knee, returns to starting position, then sits up turning the trunk to the right and touching the left elbow to the right knee. The exercise is repeated, alternating sides.

Rules. 1. The fingers must remain in contact behind the neck throughout the exercise.

2. The knees must be on the floor during the sit-up but may be slightly bent when touching elbow to knee.

3. The back should be rounded and the head and elbows brought forward when sitting up as a "curl" up.

4. When returning to starting position, elbows must be flat on the mat before sitting up again.

Scoring. One point is given for each complete movement of touching elbow to knee. No score should be counted if the fingertips do not maintain contact behind the head, if knees are bent when the pupil lies on his back or when he begins to sit up, or if the pupil pushes up off the floor from an elbow. The maximum limit in terms of number of sit-ups shall be: 50 sit-ups for girls, 100 sit-ups for boys.

Shuttle Run - Boys and Girls

Equipment. Two blocks of wood, 2 in. x 2 in. x 4 in., and stop watch. Pupils should wear sneakers or run barefooted.

Description. Two parallel lines are marked on the floor 30 feet apart. The width of a regulation volleyball court serves as a suitable area. Place the blocks of wood behind one of the lines. The pupil starts from behind the other line. On the signal "Ready? Go!" the pupil runs to the blocks, picks one up, runs back to the starting line and places the block behind the line; he then runs back and picks up the second block which he carries back across the starting line. If the scorer has two stopwatches or one with a split-second timer, it is preferable to have two people running at the same time. To eliminate the necessity of returning the blocks after each race, start the races alternately, first from behind one line and then from behind the other.

Rules. Allow two trials with some rest between.

Scoring. Record the better of the two trials to the nearest tenth of a second.

Standing Broad Jump - Boys and Girls

Equipment. Mat, floor or outdoor jumping pit, and tape measure.

Description. Pupil stands with the feet several inches apart and the toes just behind the take-off line. Preparatory to jumping, the pipil swings the arms backward and bends the knees. The jump is accomplished by simultaneously extending the knees and swinging forward the arms.

Rules 1. Allow three trials.
2. Measure from the take-off line to the heel or other part of the body that touches the floor nearest to the take-off line.
3. When the test is given indoors, it is convenient to tape the tape measure to the floor at right angles to the take-off line and have the pupils jump along the tape. The scorer stands to the side and observes the mark to the nearest inch.

Scoring. Record the best of the three trials in feet and inches to the nearest inch.

50-Yard Dash - Boys and Girls

Equipment - Two stopwatches or one with a split-second timer.

Description. It is preferable to administer this test to two pupils at a time. Have both take positions behind the starting line. The starter will use the commands "Are you ready?" and "Go!" The latter will be accompanied by a downward sweep of the starter's arm to give the timer a visual signal.

Rules. The score is the amount of time between the starter's signal and the instant the pupil crosses the finish line.

Scoring. Record in seconds to the nearest tenth of a second.

Softball Throw for Distance - Boys and Girls

Equipment. Softball (12-inch), small metal or wooden stakes and tape measure.

Description. A football field marked in conventional fashion (five-yard intervals), makes an ideal area for this test. If this is not available, it is suggested that lines be drawn parallel to the restraining line, five yards apart. The pupil throws the ball while remaining within two parallel lines, six feet apart. Mark the point of landing with one of the small stakes. If his second or third throw is farther, move the stake accordingly so that, after three throws, the stake is at the point of the pupil's best throw. It was found expedient to have the pupil jog out to his stake and stand there; and then, after five pupils have completed their throws, the measurements were taken. By having the pupil at his particular stake, there is little danger of recording the wrong score.

Rules. 1. Only an overhand throw may be used.
2. Three throws are allowed.
3. The distance recorded is the distance from the point of landing to the nearest point on the restraining line.

Scoring. Record the best of the three trials to the nearest foot.

600-Yard Run-Walk - Boys and Girls

Equipment. Track or area marked off for 600 yards and a stop watch.

Description. Pupil uses a standing start. At the signal "Ready? Go!" the subject starts running the 600-yard distance. The running may be interspersed with walking if the subject tires. It is possible to have a dozen subjects run at one time by having the pupils pair off before the start of the event. Then each pupil listens for and remembers his partner's time as the latter crosses the finish. The timer merely calls out the times as the pupils cross the finish.

Rules. Walking is permitted, but the object is to cover the distance in the shortest possible time.

Scoring. Record in minutes and seconds.

APPENDIX E

INDIVIDUAL DATA COLLECTION FORM

1. Name ____________________

2. School ____________________

3. City ____________________

4. Sex ____ M ____ F

5. Grade ____ 7 ____ 8

(Place a check in the space provided next to your correct AGE, HEIGHT, and WEIGHT)

EX. 6.	AGE	yr.	mo.	to	yr.	mo.
3	____	11	0	-	11	5
4	____	11	6	-	11	11
5	____	12	0	-	12	5
6	____	12	6	-	12	11
7	____	13	0	-	13	5
8	____	13	6	-	13	11
9	____	14	0	-	14	5
10	____	14	6	-	14	11
11	____	15	0	-	15	5
12	____	15	6	-	15	11

EX. 7.	HEIGHT	ft.	in.	to	ft.	in.
1	____	4	2	-	4	3
2	____	4	4	-	4	5
4	____	4	6	-	4	7
6	____	4	8	-	4	9
8	____	4	10	-	4	11
10	____	5	0	-	5	1
12	____	5	2	-	5	3
14	____	5	4	-	5	5
15	____	5	6	-	5	7
16	____	5	8			
17	____	5	9	and above		

EX. 8.	WEIGHT	lbs.	to	lbs.
1	____	60	-	65
2	____	66	-	70
3	____	71	-	75
4	____	76	-	80
5	____	81	-	85
6	____	86	-	90
7	____	91	-	95
8	____	96	-	100
9	____	101	-	105
10	____	106	-	110
11	____	111	-	115
12	____	116	-	120
13	____	121	-	125
14	____	126	-	130
15	____	131	-	133
16	____	134	-	136
17	____	137	and above	

(Place a check in yes or no for 9 - 11)

9. Are you competing in intramural sports this year? ____ yes ____ no

10. Are you competing in interscholastic sports this year? ____ yes ____ no

11. Have you ever taken this test before? ____ yes ____ no

(Place the code number in 12 - 17 as instructed by your teacher)

12. Type of intramural sports you compete in this year ☐

13. Type of interscholastic sports you compete in this year ☐

14. Population of city or town ☐

15. Size of school ☐

16. Type of school ☐

17. Number of years of physical education prior to this year ☐

TEST ITEMS

18. PULL UP OR FLEXED ARM SWING ☐☐

19. SIT UPS ☐☐☐

20. SHUTTLE RUN ☐☐.☐

21. STANDING BROAD JUMP ft. ☐ ' in. ☐☐ "

22. 50 YARD DASH ☐☐.☐

23. SOFT BALL THROW ☐☐☐

24. 600 YARD RUN WALK ☐ : ☐☐ min. sec.

APPENDIX F

FINAL POST CARD REQUESTING INFORMATION ON TEST ADMINISTRATION

Please return this card since your school originally indicated it would like help in giving these test items.

Name______________________________ Phone________________

School________________________ City____________________

___The enclosed directions are sufficient and I will need no further help in the test administration. (If this is checked, you will not be contacted further.)

___I will need help in the test administration. (If this is checked, we will contact you to make further arrangements.)

APPENDIX G

THANK YOU LETTER TO EACH PARTICIPATING SCHOOL

PHYSICAL EDUCATION

THE UNIVERSITY OF OKLAHOMA
NORMAN, OKLAHOMA 73069

Dear Principal:

Enclosed please find a copy of our study on the "Physical Fitness Status of Oklahoma Youth" in which your school so graciously participated. This report is for your school's information and use. Please see that the physical education teacher(s) has the opportunity to read it.

The study would obviously have been impossible to do without your cooperation and we would like to take this opportunity to express our appreciation for your school's help.

We hope this report will be of value to you, and we would be happy to answer any questions you might have.

Sincerely,

Jerome C. Weber

Jerome C. Weber, Ph.D.
Principal Investigator

Ronald A. Lee

Ronald A. Lee
Research Assistant

APPENDIX H

PRIMARY SAMPLING UNITS

YOUTH FITNESS PROJECT
The University of Oklahoma
Norman, Oklahoma

Primary Sampling Units

County Population
1-499

1. Atoka
2. Beaver
3. Cotton
4. Dewey
5. Latimer
6. Pushmataha
7. Woods

County Population
500-999

1. Adair
2. Beckham
3. Blaine
4. Bryan
5. Cherokee
6. Choctaw
7. Custer
8. Kingfisher
9. Mayes
10. McIntosh
11. Texas
12. Wagner
13. Washita
14. Woodward

County Population
1000-1499

1. Caddo
2. Canadian
3. Carter
4. Garvin
5. Grady
6. Jackson
7. LeFlore
8. McCurtain
9. Okmulgee
10. Ottawa
11. Payne
12. Pittsburg
13. Pottawatomie
14. Rogers
15. Seminole
16. Stephens
17. Washington

County Population
2000-4999

1. Cleveland
2. Comanche
3. Garfield
4. Kay
5. Muskogee

County Population
5000 and over

1. Tulsa
2. Oklahoma

Resume Date
10 29 69

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100 Title
The Physical Fitness Status of Oklahoma Youth
(A Pilot Study for Grades 7 and 8)
Final Report

200 Personal Authors
Weber, Jerome C. Lee, Ronald A.

300 Institution Source
University of Oklahoma, Norman, Oklahoma,
Research Institute

400 Publ. Date 29 October 1969 Grant No. OGE-7-8-000013-0019-(010)
and Revision #1

500 109 pages

600 Physical Education
Physical Fitness
Local Fitness Norms
National Fitness Norms
Group Comparisons
Junior High School

607 Oklahoma: A.A.H.P.E.R. Youth Fitness Test Scores

800 Abstract:

The A.A.H.P.E.R. Youth Fitness Test was administered to a stratified random sample of 7th and 8th grade boys and girls representing 44 of Oklahoma's 77 counties. The test results were used to generate Oklahoma norms, by age and by the Neilson Cozen index, for each of the 7 test items. The Oklahoma norms, representing 2000 boys and 1600 girls, were compared to the national norms for significant mean differences. Of 38 such comparisons, 25 significant differences ($P < .05$) were found. Of these, 18 favored the Oklahoma sample and 7 favored the national sample. No discernible pattern could be found to account for the observed differences. The number of significant differences found was far greater than would be expected due simply to chance. The observed differences might be attributed to the fact that the Oklahoma schools participated on a voluntary basis and not all schools that originally agreed to participate actually did so. The participating schools were generally larger, better equipped, and had more extensive physical education programs. Therefore, it seems reasonable to infer that they may not be representative of all Oklahoma 7th and 8th grade youngsters but only those in larger schools which offer physical education programs. The observed differences lead to the conclusion that national norms are not always applicable to a local situation.